





COMMERCIAL RUSSIA

BY

WILLIAM HENRY BEABLE

WITH A MAP



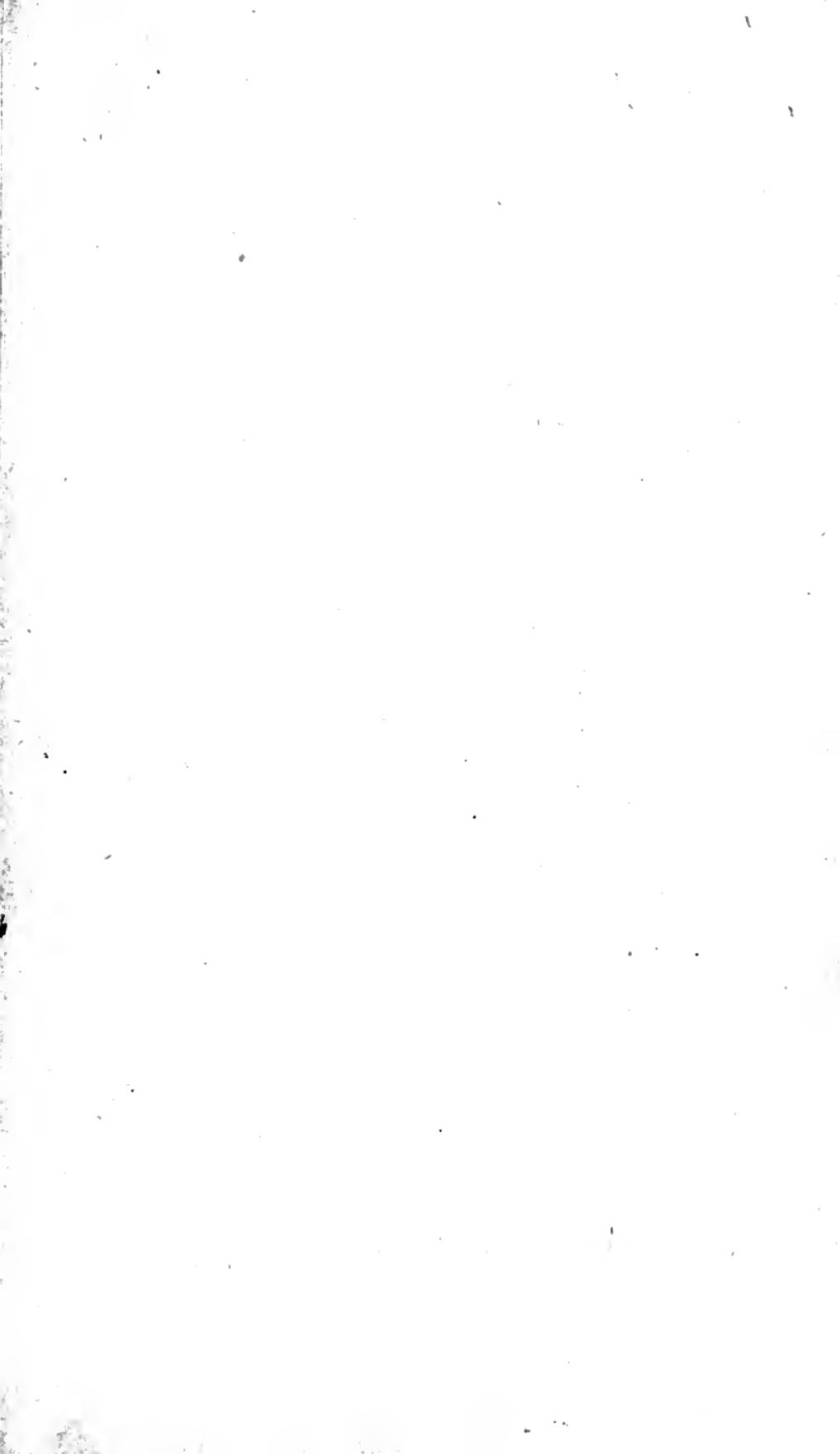
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TO
SIR FRANCIS H. BARKER
IN APPRECIATION
OF HIS ASSISTANCE IN MY EFFORTS
TO FURTHER FRIENDLY COMMERCIAL RELATIONS
BETWEEN THE UNITED KINGDOM AND RUSSIA



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COMMERCIAL RUSSIA

I

INTRODUCTION

Two trips to Russia—Changes in recent years—Demands created by municipal developments—Improvement of domestic requirements—Germany's former advantage—Factors militating against Germany—Sympathy rather than exploitation—America and Japan—Demand for high-class goods—Britain's possibilities in Russia—Catalogues—The rouble and the exchange—Early investigation necessary—The commercial war.

IN the early part of 1916 the writer organized the Anglo-Russian Trade Commission for the purpose of investigating on the spot the possibilities of British manufacturers in Russia, the best methods to be employed for securing trade after the war, and as far as possible putting those represented into communication with reliable agents and responsible buyers.

Sufficient support having been given to the enterprise, he proceeded to Russia in April, and spent six months in that country. He soon found that in order to fully appreciate the conditions and possibilities of business, it was necessary to cover the country very thoroughly, and not to confine his investigations to the larger cities, such as Petrograd, Moscow and Odessa. In addition to these, he therefore visited Archangel in the North, the other towns of the Black Sea, Nikolaiev and Kherson, the important district of the Sea of Azov, including Rostov-on-Don, Taganrog and Novocherissk, Baku and Tiflis in the

lower Caucasus, all the principal towns on the Volga, including the Fair at Nijni-Novgorod ; Omsk, the principal town in Siberia, Ekaterinburg and the mining district of the Urals, and several other towns, such as Kiev, Kharkov, Vologda, Viatka, Kursk, Tula, Perm, in some of which the English language is seldom, if ever, heard.

Through the good offices of Mr. Runciman, then President of the Board of Trade, the Foreign Office instructed its Diplomatic and Consular representatives in Russia to give him all the help possible, and Baron Heyking, then Russian Consul-General in London, provided him with an open letter of introduction that proved invaluable in his investigations.

Mr. Henry Cooke, the Commercial Attaché at the British Embassy at Petrograd, a man whose previous consular experience and extensive travels in Russia enable him to speak with authority, enthusiastically received my mission as a step in the right direction, and, notwithstanding the meagre limits of office accommodation and clerical assistance, cheerfully placed his wealth of knowledge at my disposal and devoted considerable time in assisting me, not only in making my investigations, but also in gathering material for this book. Some at least of the Consuls and Vice-Consuls also rendered valuable assistance, and I especially acknowledge that given by Mr. Caruana at Kherson, Mr. Macdonnell at Baku, Mr. Bagge at Odessa, Mr. Randrup at Omsk, Mr. Preston at Ekaterinburg and Mr. Negroponte at Rostov-on-Don.

But perhaps the most valuable information obtained was from Russian manufacturers, merchants, agents, and more especially from the shopkeepers, not only in the larger cities, but in the smaller towns, such as Vologda, Viatka, Samara, Ekaterinburg, Ekaterinoslav, Tsaritzin, Astrakhan, etc., etc., from which one got a point of view not always obtainable in such places as Petrograd, Mos-

cow and Odessa. All this information was supplemented by interviews with Prince Lvov, who kindly invited me to, and entertained me at, his home in Strelna, with General Dashkov and others interested in promoting business relations between Great Britain and Russia, with leading manufacturers, whose works I visited, with the representatives of leading British newspapers, and with the editors of some of the more important Russian journals.

My work and investigations were purely of a commercial and business character and had nothing to do with either politics or the military situation, though they necessarily embraced a study of the people, their habits, customs and outlook on life. The result of the trip was so satisfactory that arrangements were made for permanent representation of the Commission in Russia itself, and also for a second trip taken in 1917 by another member of the Commission on behalf of a further combination of British manufacturers in non-competing businesses. Upon this occasion we were favoured with a letter of recommendation by M. Sabokof, the Russian Chargé d'Affaires in London, while the British Government gave those special facilities for transport, etc., without which the trip could not have been undertaken under the then existing circumstances.

Incidentally, I would recommend anyone to approach the Foreign Office rather than the Board of Trade for any assistance, even in commercial matters. The support asked from the latter department, and refused, was readily granted by the former. The Commercial Intelligence Department of the Board of Trade, under its present political administration, is of very little help to the British manufacturer, and its information, when it has any to give, is usually qualified and of little value, if not entirely unreliable. It is now demanding a fee of ten guineas a year for information that should be available free to any

British manufacturer from a public department supported by taxes.

The second trip was taken under circumstances of exceptional difficulty. The Revolution was at its height, travel was irksome and unpleasant, hotel accommodation was limited and very expensive. Nevertheless, Mr. S. W. Coxon, who went out on behalf of the Commission, and the Petrograd representative, Mr. H. S. Lister, made a tour of the country together, and gathered some valuable information and rendered very effective and satisfactory service.

The result of the combined experiences of these two trips, together with that derived from numerous correspondents in Russia, both natives and Englishmen long settled in that country, are embodied in this book.

My endeavour has been to avoid a mass of merely statistical tables and summaries of Consular and other official reports, and rather to afford some practical information that will give the British manufacturer, desirous of knowing what Russia means to *him*, some idea of the country from a business standpoint, and some indication of the possibilities of *his* doing a safe and profitable business after the war, together with the best methods suited to his individual circumstances. It is, moreover, more especially intended for the smaller manufacturer and exporter, the man who has hitherto done little or no business with Russia, than for the firm which already has its established connections and ramifications throughout the Russian Empire, though even this may perhaps find in these pages some suggestions for the development of its business, and for the improvement of its methods in some particulars.

Perhaps the first and strongest impression made upon my mind is that the marvellous changes of the past few years have entirely altered the whole situation in Russia.

The man who "knew Russia" before the war does not know it now, whether it be the Englishman who has travelled in Russia, or the Russian resident in this country. The development of Russian industrial enterprise will modify the demand for some articles and enormously increase that for machinery, and everything required for factory equipment and maintenance. The Russian tariff is in the melting-pot. Nobody knows what will happen, except that it is fairly certain to discriminate in favour of the Allies as against the Central Powers. That it will be continued at a fairly high rate is extremely probable. It is the principal source of revenue, direct taxation being practically unknown. An income tax had for the first time been arranged shortly before the revolution, and this will very likely be continued, if not increased; but with so many millions of non-potential taxpayers, Russia must depend upon the indirect taxes of customs duties to collect her share of needed revenue from all classes of the population. Efforts will no doubt be made at an Allied conference to remove some of the anomalies of the Russian tariff, the confusion of indefinite descriptions giving rise to different interpretations, and the substitution, in some cases at any rate, of an *ad valorem* duty instead of one by weight only. It should, however, be borne in mind that the Russian tariff is one of domestic concern only. The duties increase the cost to the Russian consumer, and, so far as Great Britain is concerned, if we are in as favourable a position as any other country, only operate against us to the extent of local Russian manufactures.

The situation has changed in respect to the things that Russia will require after the war. Reference has already been made to the new demands that will be created by an abnormal development of Russian industrial enterprise. To this may be added the construction of railways, municipal tramways, lighting, water and sanitary improvements,

the building of bridges, and the development of ports with new docks and accessories, and the building of ships. But a no less increase will take place in the demand for every article of domestic use and comfort. The abolition of vodka has made possible the purchase by the poorer classes of things hitherto unattainable, and already the demand for boots, shoes, hats, things to wear and things to eat, for the comfort and decoration of the home, is far in excess of anything heretofore known. Millions of men drawn from the remotest parts of the empire, whose previous experiences have been circumscribed by their own wretched villages and poverty-stricken homes, have come under the influence of the larger cities, where they have been trained for the army, and of their experience at the front, and will return with new ideals and aspirations. The Revolution, with its sense of increased personal dignity and importance, will be reflected in a demand for better conditions of life.

The development of Russian industries, however great, will come very short of supplying this increased demand arising from changed conditions, and will not be sufficient for a long time to even meet that necessitated by an annual increase of nearly three millions in population. The almost inexhaustible natural resources of the country needed only the abolition of vodka, with the resultant increased productive capacity of the people, the improvement in financial conditions, and the growing sense of personal responsibility as sovereign citizens of a great republic, to ensure their development to such an extent, as to make paying for these increased demands a comparatively easy matter.

Granted that the demand for imports by Russia after the war will be unprecedented in its history, and that the national resources and productive capacity will enable her to pay for them in increased exports, the question

naturally arises who will get the benefit of it, and how, more particularly, can Great Britain get her share?

Before the war Germany and Austria had considerably more than half of Russia's import trade. It was not entirely through German "methods," which we are so often urged to copy, though these had doubtless much to do with the result. As a neighbour, with some hundreds of miles of artificial border-line, and as a large purchaser of Russia's exports, Germany had advantages belonging to no other country to start with. Three factors will militate against Germany after the war. The first will be the discriminating duties that will undoubtedly be levied against the Central Powers. The second will be Germany's inability to give long credits, and a great restriction of her former ramifications in acquiring information. The third will be that natural antipathy to Germans and German goods that will prevail for some time among those who have suffered. The war has, moreover, opened the eyes of the Russian people to the manner in which they have been commercially exploited by Germany, and how dependent they have been on her for almost everything they required.

No country, not even England and the Allies, will ever be allowed to exploit Russia as Germany has done. It may not be out of place here to suggest that we should approach the question of later Russian trade with a certain amount of caution, in order to remove any impression that we are attempting to take up the rôle of Germany. Sympathy is the keynote of the Russian character, and if the Russians feel that we are ready to help them build up their own industries, develop their natural resources and supply them with their surplus wants, they will readily respond to our overtures. On the other hand, if we assume too much that we look upon Russia as a market to be "captured" and exploited entirely in our own interest and

to our own advantage, suspicion will be followed by antagonism.

The three factors referred to that will operate against Germany after the war will necessarily be to our advantage and to that of our Allies, and amongst them naturally to the United States, Japan and France. The two former countries have the advantage of the start by being able to supply Russia's wants to some extent during the war. America had, moreover, the lead already in agricultural machinery and in sewing machines. She has, however, the disadvantage of distance and time, the former adding to the cost of carriage, and the latter entailing longer credit. Temperamentally, too, the hustling American finds the easy-going, procrastinating Russian very irritating, while the latter is equally out of sympathy with the former's impatience. Nevertheless, the Americans are organizing for trade in Russia after the war, and even the Canadian Government is far in advance of our fossilized Board of Trade, for Canada is represented in Russia by its own Trade Commission, with its own offices. In the things in which the United States excels, in the goods she already exports even to this country, she will probably more than hold her own in Russia after the war.

There is a somewhat widespread feeling in this country that Russia only purchases "cheap and nasty goods." Some months ago I gave an address on Russian possibilities before a business audience in a Yorkshire town. The gentleman who proposed the customary vote of thanks, after paying the usual compliments, disagreed with most of what I said. "Russians," he said, "were nearly all peasants, rude and dirty, who wore neither boots nor hats, and very little clothing, and what they bought was trash, which he hoped this country would never manufacture." He claimed to be speaking with authority and experience, as he had visited the country, I think, some thirty years

previously. As a matter of fact, there are probably more very rich people in Russia than in any other country in Europe, and these are ostentatiously lavish in their expenditure, nothing being too good for them. Then there are twenty-five millions of Russians who are living in the towns. However, it is true that a great deal of relatively cheap goods, such as knives and forks, to give an illustration, are used in Russia. This class of trade will, in my judgment, largely go from Germany to Japan.

The first two or three years after the war will offer boundless possibilities for Great Britain, not only in machinery, factory plant and the requirements of Government and municipal undertakings, but also in almost every conceivable kind of merchandise. But it will be a case of "thrice armed is he who gets his blow in first." In a few years Germany will have recovered somewhat from her position immediately after the war, Russian antagonism will die down under the stress of competition and possibly the dearth of supplies, and the British manufacturer "who will not when he may, when he will he shall have nay."

A great deal has been said and written about the necessity of having catalogues in Russian, corresponding in that language, and invoicing in terms of Russian weights and measures and coinage. The difficulties and expense in the case of the smaller manufacturers seem at first sight too great for the probable results.

The question of catalogues and price-lists is a comparatively easy one. Abridged catalogues, illustrating the principal articles likely to be required in the Russian market, are already being prepared by several firms. Some of our large printing firms are specialising in Russian printing, especially Messrs. Taylor, Garnett, Evans and Company, of Manchester, who, in addition to having a splendid selection of Russian type, have the assistance of thoroughly reliable and competent translators.

The new Marconi code promises to materially help in the matter of Russian correspondence. They are publishing five code-books covering eight languages, besides English, the code word in each case being followed by the sentence in English, and in the first book by Russian and Japanese also. So that in addition to being a valuable code, brought up to date by the inclusion of the latest technical and scientific terms, it is also a splendid lexicon for business correspondence. By the use of a few code words a complete letter can be written, which will be easily translated by the Russian correspondent, or if written by him, will be readily interpreted by any clerk of average intelligence. Moreover, the impetus given to the study of English in Russia and of Russian in England makes facilities for translation very much easier than formerly.

← Russian coinage presents very little difficulty, being on the decimal system, and consisting only of roubles and kopecks, one hundred kopecks making one rouble. Of course, when selling in roubles it is necessary to figure at such a rate of exchange as will give the British exporter the proper amount in sterling. This has been practically impossible during the war on account of the fluctuation of exchange, which has risen as high as forty roubles to the pound sterling, as against about $9\frac{1}{2}$ in normal times. It should, however, be remembered that the bulk of goods exported from this country to Russia during the war have been on account of Government supplies, and have been paid for in sterling, or at an agreed rate of exchange between the two Governments, very much lower than the market quotations. The restrictions against imports and exports both by the British and Russian Governments, and the latter's embargo against money coming out of the country, have resulted in a nominal and largely fictitious rate of exchange only applicable to very small transactions.

↓ The unfavourable foreign exchange proves very little

beyond the fact that Russia cannot export its produce. The great fall in the export of grain, timber, etc., cannot be made good by the export of foreign securities, owing to the fact that hitherto Russia has not invested abroad. The prices that have been paid for foreign currency have been chiefly determined by the scarcity of that currency. The unfavourable tendency of foreign exchange has brought about the usual result. High prices always induce the public to buy. Fancy prices for everything—that is the motto of the modern millionaire. Why not, therefore, fancy prices for currency? It is to be regretted that many business men, panic-stricken by the internal struggles and the temporary lack of order, have joined in the rush for foreign currency. The rise in prices has again brought in fresh buyers. The fact is that what has happened recently with foreign currency is just what will probably happen with the Russian rouble in the near future. When the rate of the rouble rises, there will be a rush to buy roubles. That faith in the rouble still exists is shown by the foreign subscriptions to the Liberty Loan. The financial position of Russia, it is declared by Mr. Nekrasoff and M. Bernadski, is very far from being alarming.

The well-informed Petrograd correspondent of the *Daily Telegraph* says that the Russian money market has proved itself able to absorb an absolutely unprecedented amount of internal loans. This fact alone constitutes a ground for anticipating that the Russian exchange will recover with much greater rapidity than is generally expected. The Liberty Loan issued by the Provincial Government met with a satisfactory response. The amount taken up was over 3,500,000,000 roubles, a sum exceeding the total Russian Budget before the war. It is true that the loan was financed to a certain extent by the banks, but the amount of private subscriptions was very large. The bulk of the internal indebtedness incurred owing to the war

consists of short-dated Treasury bonds discounted by the State bank on the open market. The issue of these bonds has led to a considerable increase in the issue of paper money, amounting to 15,000,000,000 roubles. This figure, if compared with the issues of paper money in some other countries, should not arouse undue anxiety as to the future of the rouble. The rouble note is a debenture secured by the enormous natural resources of Russia, a country covering one-seventh of the globe, with a population of one hundred and eighty millions. The high prices are to be explained, not so much by the large issue of paper money, as by the exceptional scarcity of goods, and by the defective organisation of distribution. The heavy fall in imports and the temporary decrease in output have created a situation in which there is very little to buy and much money to buy it with. Under such conditions prices naturally go up. It is to be hoped, however, that an increase in production in the near future will check this rise.

On the other hand, however, British manufacturers having credits in Russia, while able to collect their accounts have not been able to get the money out of the country, and millions of roubles are lying to their credit in Russian banks until the war is over, or action is taken by the Russian Government enabling the transfer. These credits, while bearing interest, are much depreciated in sterling value. Whether the rouble will ever regain its former value is a moot point, but the general impression seems to be that it will go to about twelve roubles to the pound sterling as soon as hostilities cease, and remain there for some time until Russia's exports will more nearly balance with her imports.

The metric system is, however, much more generally adopted in Russia than in this country, and those manufacturers who use it in other departments will find very little difficulty in dealing with weights and measures.

The average Russian clerk is not much good as a mathematician. Nearly all his calculations are made on a special kind of abacus, a wire frame with beads. These are found on the desks in every bank and business office, and on the counters of every shop. The Russians are very expert and accurate in its use, and columns of figures are added up and calculations made much more quickly than by the mental process. The use of the "schott" is so general that it is rare to find a Russian who can make a mental calculation or addition, or even do so in the ordinary way. Judge, then, what it means to get an invoice for 5 tons 13 cwts. 3 qrs. and 11 lbs. at £5 13s. 9d. per ton. One such invoice was brought to me for verification, and I must admit the Russian had the laugh on me, and I never appreciated before so much the absurdity of our methods, or became so strong a convert to the metric system.

This is being written in January, 1918, when the political situation is still extremely obscure. I will not venture into the realms of prophecy, and it is no part of such a book as this to discuss the numerous questions arising out of the revolutionary movement. I am, however, sufficiently optimistic to believe, as do all those who best know Russia and the Russians, that saner counsels will ultimately prevail, and that the country will emerge from its present crisis as one of the great progressive Republics of the world, inspired by lofty ideals and by a more practical outlook than at present.

In any case, whatever may be the outcome of the present situation, the fact remains that nearly two hundred millions of people, whether they continue to be one united Russia, or a number of smaller states and republics, will want everything that the United Kingdom can supply, and that they are so abundantly supplied with natural resources that the question of payment is not a difficult one. The unexplored forests of Russia would alone pay

for all its war debt and leave a handsome margin. And it should be remembered that Russia—that is, the Russian people—are the creatures of circumstances beyond their own control, and need our sympathy rather than deserve our criticism. If Germany gets a commercial foothold again in Russia, it will not be through diplomatic or political action, but owing to its preparedness and our lethargy.

The really important thing is to begin to make preparations *now*. The number of reliable agents is limited, and the manufacturer who is first in the field has the best choice with whom to begin operations as soon as the war is over. Many of the best men in the various cities are already committed, and could not take up the representation of competing lines. The first of British goods in any line to reach the Russian market will have a tremendous advantage over its competitors. It is, of course, impossible to do business now; most manufacturers are busy on Government orders, and others are unable to meet the home demand. But this does not prevent their present investigation of the Russian market, so far as their own particular business is concerned, making tentative arrangements with customers and agents, and preparing for their share of one of the richest markets in the world, a market which they will want when munition fires are dampened down, when swords shall again be turned into ploughshares. When the boys come home they will want factory fires, as well as home fires, kept burning.

The next war will be a commercial one, a war that cannot possibly be averted. Whatever theories are advanced, or whatever terms may be embodied in treaties as to business opportunities, a commercial war is inevitable. Furthermore, whatever may happen in Russia, if the worst fear of pessimists is realised (though I have unbounded faith that Russia will eventually come triumphantly out of her trials), the fact remains that there will

be a market of nearly two hundred millions of people demanding hundreds of millions of pounds' worth of goods per annum, and with unlimited resources with which to pay for them. For this market and for this war Germany, with all her difficulties, with all her tremendous handicap, is already preparing ; preparing with the same thoroughness and foresight as she did for the present conflict. The result lies in our own hands if we but take advantage of our opportunities *now*.

II

TRAVELLING IN RUSSIA

Before the War—*Via* Norway and Sweden—Russian trains slow—Cheap fares—Zone system—Tickets in advance—Luggage—Smoking compartments—Meals *en route*—At the station—Steamboat travel—Travelling in Siberia—Coach travelling—Motoring—Russian railway systems—Hotels.

THE ordinary route to Russia in pre-war times was by way of Berlin. During the war, passengers have had to cross from Newcastle to Bergen, thence by rail to Christiania, and either through Stockholm, or going on direct to Haparanda, the most northerly point of railway in Sweden, and just outside the Arctic Circle, at the head of the Gulf of Bothnia. For military and political reasons there are no through lines of rails between Sweden and Russia, and the passenger had to cross the river by boat in summer and by sleigh in winter, to Torneo, in Finland, and thence through the entire length of that country to Petrograd. Steamers carrying passengers also ran from English ports to Riga and Petrograd before the war.

The Great Northern Railway, in conjunction with the Norwegian and Swedish State railways, had, previous to the war, begun to develop travel, not only in Norway and Sweden, but also through those countries to Russia by way of Stockholm, from which it is, in ordinary times, a short and pleasant boat trip across to Finland. While this will take a little longer time than the ordinary route through Holland and Germany, it is one that will be preferred by many people on account of the magnificent Scandinavian scenery, as well as from the desire to avoid Germany as much as possible.

Travelling by rail in Russia, while generally much slower than in England, is, in normal times, exceedingly comfortable. On account of the long distances, practically every train is provided with sleeping accommodation. The first-class compartments accommodate two, and the second-class four passengers, and are quite commodious. The trip from Moscow to Petrograd, which takes twelve hours and is usually made at night, is the shortest that the average traveller will be called upon to make, the usual run between good-sized cities being from twenty-four to forty-eight hours.

Russian railways are of great length, and almost all except main lines possess only single metals. With few exceptions, such as the Warsaw-Vienna railway, they differ from the continental railways in gauge, the Russian gauge being considerably broader; hence there are no through carriages from other parts of Europe. This gauge was adopted formerly for strategical reasons; and it has now, however, been discovered that it does not constitute a serious obstacle for an enemy, but it causes great inconvenience to railway transport, as only specially constructed carriages, with adjustable wheels, can be used for trains running between Russia and other countries.

The Russian railways are an example, not only of great length, but also of great slowness. It has been jocularly stated that there are only two railway speeds in Russia—"slow" and "stop." The Russian citizen is perfectly contented with twenty-five miles an hour. It represents a great speed in comparison with the coach travelling to which he is accustomed. Of course, express trains run more quickly, their speed being thirty-five, or even more, miles per hour. But these are few, and such on the main lines only. The slowness of travelling in Russia is increased by numerous and long stops at various stations.

In addition to this, trains are very often late by as much as an hour or more.

Though travelling in Russia is a slow business, it is nevertheless very cheap. The population being comparatively poor, and distances long, railway charges must be low. The Russian system is such that the further a traveller journeys the less he has to pay per mile. This is achieved by the Zone system. It is arranged as follows : On distances between 1 and 160 versts the charge is $1\frac{1}{2}$ kopecks per verst (a verst being two-thirds of a mile). On distances between 161 and 300 versts the charge is 1 kopeck (one farthing) for each verst. After 300 versts the charge is not per verst, but per a certain number of versts, representing a girdle or zone. The longer the distance the greater is the girdle. For instance, from 301 to 500 versts there are 8 girdles of 25 versts each ; from 501 to 710 versts there are 7 girdles of 30 versts each, and so on. At the distance of 2,900 versts the girdle represents as many as 50 versts. Although the girdles go on increasing with distance, the railway charge per girdle remains the same, viz. 25 kopecks per girdle for a third-class ticket. This means that a third-class traveller who proceeds, say, from Petrograd to central Siberia pays about 6d. for each 33 miles. Passengers of the second class pay nearly double fare, while first-class passengers pay three times more than the third-class passengers, and exactly as much as the second and third combined. In addition to this a small tax for the Red Cross is charged. Each ticket is available for a certain time only, which is indicated on the ticket according to the distance. The journey may be broken at any station, but the ticket must be immediately handed to the station-master, that he may endorse it. Passengers while travelling can change their class by paying the difference in fares.

Trains, being few, are often overcrowded, hence it is

very important to procure tickets and seats as early as possible. In large towns this is facilitated by the existence of town ticket offices. In such cities as Petrograd or Moscow, the simplest plan for an Englishman is to commission a porter in his hotel to obtain the required ticket. In the largest hotels a special man is kept for the purpose, and he usually speaks English or French. It is advisable, however, to give him such an order in advance. Especially for express trains and sleeping-cars, ample time has to be given, as it often happens that all tickets are reserved for some time in advance on such lines as the Petrograd-Moscow. If the traveller is in a hurry, the man commissioned with the purchase of his ticket can usually manage to get the ticket for a few roubles extra. There are also a certain number of tickets always left for sale at the railway station in the booking-office a quarter of an hour before the departure of the train. When the demand for tickets is very great, some time is required for waiting in a queue before the booking-office window, and then there is a risk of missing the train. Such cases, however, are exceptional, and on particular lines, as for instance, at the time of the Nijni-Novgorod fair. In the smaller towns, where tickets can be booked only at the railway stations, it is advisable to arrive not less than half an hour before the departure of the train.

The best way is to procure a porter (*nasilshchik*), even when the traveller has hardly any luggage, and could carry it himself. A Russian travelling with no luggage whatever will give his umbrella or walking-stick to the porter, simply with the object of obtaining a good seat. The porter will buy his ticket and will get him a seat. One can safely give him as much as 100 roubles in bank-notes for the ticket. He will bring it with the exact change. It is very important, however, to remember the number on his cap or on a brass plate hanging on his breast. It is important because

the porter may forget what his customer looks like, although in the case of a foreigner this does not usually occur.

If the passenger has luggage which he wishes to put into the luggage van, the porter will see to it. All such luggage must be registered. One pood (40 Russian or 36 English pounds) is conveyed free of charge, and any surplus weight is charged according to the distance. The ticket must be produced during this registration, and the railway official stamps this ticket and gives a receipt for the luggage. The racks in Russian trains are, however, very large and commodious, and will hold three or four times the amount of luggage that one can get into a compartment in an English train. In practice, a passenger is allowed all the luggage he can take with him, and the porter has a wonderful knack of getting half a dozen or more bags and cases stowed away.

The porter must be informed of the name of the station to which the passenger is proceeding, the train according to the time-table, the class, and the kind of compartment, viz. smoking, non-smoking, ladies, or sleeping-car, as the case may be. The passenger can get along quite comfortably with about twenty words of Russian. There are the following kinds of trains: Express trains (kuryerski or skori), mail trains (potchtovi), which are a little slower; passenger trains (passajerski), passenger-goods trains (passajersko-tovarny), and goods trains (tovarny). There are first and second class in express trains, sometimes first only. First, second and third in the rest of the trains, and, on some lines, there is also a fourth class, the compartments being little more than cattle-trucks, attached to slow trains.

In Russia, if there is no notice in or outside of the compartment, passengers are allowed to smoke. The notice of no smoking (dla nekuriashchikh), for ladies (dla dam), and sometimes but not always smoking (dla kuriashchikh), is

usually placed outside the compartment in the corridor over the door.

Almost all carriages are corridor carriages, and at the end of the corridor there is a lavatory (ubornaia). There is also a wash-basin in most of the first-class compartments.

Generally speaking, all carriages and all classes provide sleeping accommodation, on account of the long distances. The backs of the seats in the compartments are arranged in such a way that they can be lifted at night, and thus there are two sleeping-berths in the first class, and four in the second—two lower and two upper. It is, however, not advisable to reckon on this free accommodation, but to book a reserved sleeping-berth (platz-kart). Sleeping-cars (spalni vagon) are of two kinds. The so-called government sleeping-car (kazionny), and that of the international car wagon-lit (mejdunarodny), which is more expensive, but more comfortable, being of the same kind as all international sleeping-cars on the Continent. In both kinds of sleeping-cars, pillows, sheets, blankets and towels are provided, but in the carriages other than the international they are charged for, and should be ordered as soon as one gets in the train, in case of shortage. In each carriage there is a steward (provodnik) who arranges the bed, clears the compartments, brushes clothes and shoes, and takes tickets for the night, so that passengers are not disturbed by inspectors (controllers). In international carriages the steward often speaks foreign languages.

Express trains are usually, but not always, provided with dining-cars. If there is no dining-car, passengers have their meals at the larger stations, where the train stops for half an hour, or longer. It is the duty of the guard (konduktor) to tell how long the train stops. It is also customary in Russia to take sandwiches, boiled eggs, chicken, fruit, chocolates, etc., in a basket, and to eat in the com-

partment. The Russians also take tea and sugar, a kettle and glasses or enamel cups. The steward or the guard brings, if required, boiling water (keepietok) at any station, for a tip of 10 or 20 kopecks. It will be found very handy to have an excursion-basket, with vacuum flask, a spirit lamp and other accessories, if only to provide refreshment for the sometimes long intervals between station meals.

While the train stops at a larger station, passengers leave their compartments in charge of the steward or guard, and run to the buffet. Breakfast, dinner or supper, as the case may be, is usually waiting for them, generally consisting of the proverbial "tschi" or cabbage soup and cutlets.

Those who have "train nerves," and are afraid of losing the train, can have light refreshment, such as sandwiches (zakouski), with, before the war, a glass of beer (pivo), wine and various liquors. Their fear is, however, unjustified, as there are three warning bells before the train departs. After each bell, a porter comes to the buffet and waiting-rooms in the station, and announces the fact to the passengers. The first bell need not disturb one, as it rings a quarter of an hour before the departure ; the second bell is rung ten minutes later, and it is advisable after this warning to leave the restaurant for the train, as the third bell is followed by the chief guard's whistle. The train starts immediately. To avoid mistakes, it is useful to remember the number of the car. First-class carriages are painted blue, second class yellow, and third green, and all carriages are numbered. This may also facilitate matters when the train changes rails and its position while the passengers have been having their meal in the refreshment-room.

One of the most unpleasant things about travelling in Russia is changing trains (peresadka). In some cases it is

necessary to wait in a junction for six or even twelve hours, for another train. It is particularly tiresome if this happens at night. Passengers have to sit on the chairs and benches in the waiting-room ; those who hold third class-tickets very often go into the first and second and third class waiting-rooms, and thus the entourage is very mixed. Little children cry, dogs run about, and lusty passengers snore on their luggage in a terrible manner. Still, if one can look on the humorous side of things, it is exceedingly interesting. In some stations, however, there is a barber who attends all night, bookstalls, with French and English books and postcards, are open, and very often also stalls with toys, rustic products, etc., are displayed in a picturesque manner. At the bookstalls stamps may be bought for a small copper extra, telegrams from the station telegraph office may be sent all night, and the buffet (a big dining and waiting room combined, including a bar), with its dreamy Tartar waiters, is open all night. The same porter who took the luggage from the previous train will take it at the proper time to the train on another line, no matter how long the passenger may have to wait, and then is usually content with a tip of 3d. or 6d. It is best, while waiting, to tell him to put all luggage in the refreshment-room, so that it can be seen while the traveller has his meals. If there is any complaint, a special book is kept in the waiting-room for the purpose. If, however, a passenger prefers to make a verbal complaint, he can apply to the stationmaster (*nachalnik stanzi*). The stationmaster can be recognised by his red cap of the same shape as that of the English officer, and he wears it only when on duty. Should waiting for another train happen during the day-time, the passenger can leave his luggage in charge of his porter, and, after inquiring about the time at his disposal, can visit the town, or take a stroll in the country-side, as the case may be.

When one travels in the western part of Russia, where the Jewish population represents a considerable percentage, it is well to remember that the best time for travelling is from Friday to Saturday, as at this time Russian Jews only travel under the greatest compulsion ; on such lines as Vilna-Warsaw the traffic drops at that time by more than one-half. If, however, the train is over-crowded, second-class travellers can demand to be transferred to a first-class compartment without additional fee. In such cases a small tip to the guard would be found very useful. It sometimes happens that after the guard has been tipped, a quite empty compartment will be discovered and unlocked.

Nearly all the Russian rivers are navigable for hundreds of miles, and regular lines of excellent steamboats ply on them, conveying both passengers and freight. In many cases these cover districts not traversed by railways, while in others, such as the Volga, the principal towns are also reached by rail. The Volga is navigable for over 2000 miles, from Tver, midway between Petrograd and Moscow, to Astrakhan on the Caspian Sea, and the steamer stops at such important towns as Nijni-Novgorod, Kazan, Samara, Saratoff and Tsaritzin. It is a favourite summer holiday trip with the Russians, the boats being built on the style of those on the Hudson river, with every cabin looking out on to the promenade deck. They are wonderfully clean, as mashoot, a refuse of petroleum, is used instead of coal, and is conveyed to the furnaces by pipes from a tank. Excellent meals are furnished at very moderate cost, and the fares are quite reasonable. Two or three different companies run regular lines of steamers, each with a daily service, and as three to four hours is allowed at each town, business can very well be combined with pleasure, while the time taken is not much more than it would be by rail, if all the towns were visited. The scenery is perhaps not

very interesting in most parts, but this is amply compensated for by the scenes when the boat stops, and by the varying character of the steerage passengers.

From Astrakhan one can change into the larger boats of the Caspian Sea, and take the 400-mile trip to Baku in about two days. Tributaries of the Volga run in other directions, and their boat services make connection with the Volga at different points. In some parts, indeed, the only communication is by steamer, as for instance, from Kotlas to Archangel, unless one makes a very long detour. The Don, leading to the Sea of Azov, and the Dnieper to Nikolaiev and Kherson, have also excellent services. River navigation is, however, confined to the summer months, as all are practically frozen over in winter.

It is different, however, with the Siberian rivers. There are many regions which in summer can be reached only by steamer. Such rivers as the Obi, Yenisei and Lena traverse a country where coal, gold, iron and other products are found in abundance. Moreover, in midsummer these rivers are used by steamers which reach the Arctic Ocean and the open sea. But again, this navigation, though of great importance for a merchant and explorer in Siberia, is in the hands of private companies and steamship owners, who, in most cases, have their own rules and their own charges, and there is no uniform system as is the case with the railways. The traveller who intends to go to Tobolsk or Semipalatinsk, to Yeniseisk or Minusinsk will find in Omsk, Krasnoyarsk or Irkutsk, steamers suitable for his purpose. The charges are very low; for example, the fare for the journey from Omsk to Tobolsk, which represents 747 miles and occupies 4-5 days, is 8 roubles (16s.).

Vieing in importance with travelling by steamer is travelling by coach. Indeed, it is important not only in Siberia, but in European Russia also, on account of the vast regions where railways do not exist. There are

several classes of roads—according to their width, their construction and their administration. Not many of them are kept by the State. The majority of high roads are under the administration of the Zemstvos. It is one of the great tasks of this local government to keep roadways in good condition. There is an opinion in western Europe that the Russian roads are very bad, but it is unjust, at least as regards the high roads under the administration of the Zemstvos and the local authorities, and it may be applied only to side roads under private administration. Coaching in Russia, especially long distances, is carried on by post-coaches (*potchta*). A traveller usually journeys from one post-station to another in a coach with a hood (*tarantass*). Travelling in Siberia, where the journey often occupies several weeks, the Russian mail-coach is arranged in such a manner that the passenger travels lying down. In those parts of Russia where coaching represents shorter distances, travellers journey sitting. With three horses to a carriage (*troika*) is the favourite mode of travelling. In winter the same three horses draw sledges (*sani*). Travellers arriving at the posting-stations alight, have tea and meals while the horses and vehicles are being changed. Those who are in haste can travel day and night; those who have more time wait at the posting-stations. Provisions, soap and towels are still more important than is the case with the railway traveller. It must be remembered that at many posting-stations the only thing of which one can be certain is the samovar, full of boiling water. As to tea, sugar, biscuits, etc., travellers have their own. Coaching, being particularly important in Siberia, is better organised there than perhaps in any other part of Russia. Siberian horses are famous for their swiftness and hardiness. They are capable of running 100 versts, doing 20 versts per hour. They must be harnessed, and the passengers must get into the coach with closed gate in front

of the horses. As soon as the gate is opened, there is no power to stop them ; they shoot from the spot like a whirlwind, and the coachman (yamschik) can only stop them after they have run some 20 miles. The middle horse carries a large bell, the sound of which rings far off, and has a peculiar, soothing effect. The hardship of the journey is amply repaid by the beautiful, wild scenery and fresh air. In those parts of Siberia where travelling is unsafe on account of wandering outlaws several vehicles travel in company. The fares for the coaching are comparatively low, being $\frac{3}{8}$ farthing per verst per horse. In addition to this, a small charge is made at the stations. There is also a still cheaper and a very fast manner of coaching in Siberia—"with gold." Unfortunately it is not always available. Gold from distant Siberian mines is sewn in leather sacks of sausage shape, and then riveted between grooved logs of wood inside the passenger vehicle. Travellers in this manner are charged less, and are welcomed for the sake of the safety they confer. Many vehicles in company thus travel with terrific speed. In European Russia post-horses are not so swift, vehicles not so convenient and travelling is more tiresome. Posting here is often kept by a local landowner or farmer for a yearly sum of, say, £100, for which he is obliged to convey State and other officials free of charge, while other people pay a fare officially laid down. In this case, as everywhere else in Russia, the driver expects a small tip "for tea," as they say. This is so characteristic of Russia that the Russians themselves say that when the Lord created different nations, every nation was grateful and enjoying life, except the Russian moojik. God then approached the Russian moojik and inquired of him why he was so sad after his creation. "Verily, verily, Your Grace," he replied, "You have created me, but will you not give me a tip for it ? "

Whilst speaking of travelling in Russia, a few words may be added on motoring. There is no doubt that the high roads are sufficiently well kept for this mode of travelling, as the great motor races between Paris and Pekin have proved. The long winter, however, and the deep snow only make it practicable in summer. Moreover, human sympathy being scarce in many parts, any accident or breakdown makes the position desperate. Petrol cannot be replenished in villages or small towns. But this, no doubt, will soon be improved with the general development of Russia. Firmer motor routes are still on a very small scale. For instance, there were motor buses running from the Austrian frontier to Lubin in Poland to convey passengers between Lemberg and Warsaw. The Russian Government entertained a serious scheme for opening up motor traffic between Petrograd and Archangel. This, of course, would be an important development of motoring, in a country in which, until very recently, there was not a single motor factory. And yet, Russia being a flat country with long distances, opens up enormous possibilities for motoring and aviation. Cycling and motor-cycling can, of course, have only local significance. Those who wish to cycle in Russia must pass an examination and receive a permit.

Although, even in European Russia, there are regions larger than the area of England that are untraversed by railway lines, almost all large towns and commercial centres are connected by the railway systems. But many thousands of versts of Russian railways are not very imposing if we take into consideration the vastness of the country. European Russia has 62,910 kilometres of railway, Asiatic Russia 11,700 kilometres ; that is, there are in Russia 74,610 kilometres. Great Britain, which is seventy times smaller, has 37,330 kilometres, or half of the Russian railways ; the United States, which are a little

more than one-third of the Russian Empire, have 409,940 kilometres ; that is, five-and-a-half times more than Russia. If we represent Britain's railway system relatively to area by 120, that of the United States will be 43, that of European Russia will be 11, and that of Siberia only 1.

There are three most important junctions from which railways run in various directions, viz. Moscow, Petrograd and Warsaw. Of these, Moscow is the most important. Ten railway lines connect Moscow with other Russian towns. Through this part of Russia communication exists between western Europe and Siberia, Turkestan, China and Japan. The junction lies on the route between Archangel and Odessa, Petrograd and the Caucasus. Next in importance as a centre is Petrograd, and then Warsaw. During the Great War, Petrograd has grown in importance as a railway centre, since Russian traffic with France and England has been carried on through the Finland and the Murman railways.

The majority of Russian railways belongs to the Government ; as much as 69 % is the property of the State, the rest of the railways are run by various private companies. They are all, however, under Government control, and the influence of shareholders is practically limited to receiving their dividend. Even the directors of these private companies are considered by the State as Government officials, and are responsible to the Minister of Ways and Communications. Ultimately all private railways become the property of the State. The concession to build and run a railway is issued for a limited time only, usually for 81 years, after which the railway is the property of the State, and the shareholders have no compensation whatever. It is quite obvious that such a law is unattractive to investors, and cripples individual enterprise. Moreover, it was formerly very difficult to obtain a railway concession in

Russia, and many formalities would hamper the proceedings. In many cases, ministers of autocratic Russia had to be bribed by hundreds of thousands of pounds. If such bribery was not paid directly, there was an indirect way. For instance, one of the Ministers of Ways and Communications issued a concession on the condition that all necessary rails and engines would be purchased through the firm in which he had an interest. The War and the Russian Revolution have changed the situation entirely. Russia, which suffered from her enemies to such a great extent on account of the shortage of her railway system, not only intends to develop it, but she is actually carrying on enormous work, in spite of the terrible conditions. Of these achievements, the Murman railway is no doubt the most important. This railway has, however, very little importance for a traveller. It is very unlikely that a passenger from England would choose this lengthy route instead of taking the quicker lines of communication. Notwithstanding this, the Murman railway will always have its importance as a new route for goods traffic.

In the larger cities the hotels vie with the best in England or other parts of Europe. But Russia is a country of extremes. There is nothing medium. As soon as one gets to the smaller towns the hotel accommodation is terrible. The best rooms are more distinguished by size than anything else. A writing-desk, however, always forms part of the equipment, and also a washstand, with a tank from which the water trickles into the basin, and thence to the bucket below. There is no plug to the basin, as the Russian believes in washing in running water, though how he manages to do so with such a tiny flow of water I could never discover. Baths are practically unknown, as Russians patronise the orthodox steam bath, which is found in every Russian town and village, at least once a week. Moreover, as he usually carries his bed-linen, towels,

etc., when travelling, considering it very improper to use those that have been used by others, even if clean, these articles have to be specially ordered in the smaller hotels, and one's bill includes a host of different items—towels, pillow-cases, sheets, etc., as well as the charges for room and meals.

III

THE COUNTRY

Its size—Its physical features—Rivers—Lakes—Forests—Climate—Northern Russia—The Baltic provinces—The Donetz Basin—The Urals—Population of cities.

IT is impossible to properly consider Russia and its possibilities without taking into account its vast area of nearly nine million square miles, or about one-sixth of the total land surface of the earth. There is no real dividing line between European and Asiatic Russia. It is one contiguous country, speaking the same language, having the same climatic conditions. Siberia is more akin to Russia in Europe than is the Caucasus. The Ural Mountains are popularly supposed to be the dividing line between Europe and Asia, but there are thousands of square miles of Russia in Europe beyond the Urals. In fact, there is no definite chartered boundary on the east between Europe and Siberia.

The Russian Empire is more than twice the size of the whole of Europe; it is larger than the United States, Canada and India combined. It could hold more than double the present population of the whole world if peopled in the same proportion of density as either the United Kingdom or Germany. The Caucasus is half as large again as the United Kingdom, and very nearly as large as Germany. Poland is almost exactly the same size as England, the Baltic Provinces are larger. When it is 11.20 in the morning in one part of Russia it is 6.46 in

the evening in another. It is 6,400 miles by rail from the Russian western border to Vladivostok, a distance as great as across the Atlantic Ocean and the American continent from England to San Francisco. It is 2,250 miles by rail from Archangel to Baku, which is 300 miles more than from London to Moscow by the shortest route through Germany. Siberia is nearer London than Warsaw is to Vladivostok. It is further from Moscow to Odessa than it is from London to Berlin, and from Warsaw to the Urals than from England to Petrograd. These rough comparisons will give a better idea of the extent of the country than mere tables of statistical figures.

Russia is pre-eminently a flat country. In fifteen thousand miles of travel I did not come across a tunnel. The Ural Mountains are hardly worth the name. They are only a few hundred feet above sea-level, and rising from a tableland, do not appear to be mountains at all. The railway goes over them and one does not notice any climbing. Further north, beyond the railways, they are higher. Practically the only mountains in Russia are those dividing the Caucasus, and these are the highest in Europe, Mount Elbruz being 18,526 feet high, and Mount Kazbek 16,546 feet. There is a military road from Tiflis to Vladikavkaz across these mountains about 150 miles long, and reaching to a height of 7,000 feet, and this trip by carriage with relays of horses is one of the most delightful I took.

The Russian plateau runs from Poland and the Baltic Sea on the north-west, and from the Carpathians and the Black Sea on the south-west, and spreads as far as the Arctic Ocean on the north and the Pacific Ocean on the east. It is partially interrupted by the Ural Mountains. Of course, we ought not to imagine that for a traveller Russia would everywhere appear as flat as a table. In many regions it has picturesque hill scenery, as in the region where Moscow is situated, for instance. On the

other hand, there are mountains, such as the Caucasus and those of the Northern Himalayas, in comparison with which the Alps are mere hills.

Russia is, however, a country of great rivers, many of them navigable for many hundreds of miles. In Russia in Europe alone there are five rivers over a thousand miles long, including the Volga, which is 2,110 miles in length, and navigable for nearly 2,000 miles. There are thirteen or fourteen rivers over five hundred miles long, and most of them are navigable for the greater part of their length.

Thus through this Russian plain flow great rivers of such length that they compare with the longest in the world. In the present chapter, however, that part of the Russian Empire which is known as European Russia is being considered, a special chapter being reserved for Siberia.

The largest European river, the Volga, is entirely in Russia. It flows into the Caspian Sea, the largest "lake" in the world. It is the most important of all the Russian rivers, and the Russians cherish towards it a particular sentiment, and very often call it "Matushka Volga" (Mother Volga). Indeed, the Russian moojik attributes the Biblical flood to the overflow of the Volga. It has its sources in the Valdai Hills; it flows eastwards through a soil of sand and clay, then turns sharply southwards, and traverses the richest agricultural part of Russia, that of the so-called "black earth." Near the Caspian Sea it is below sea-level, as it flows through the Caspian depression. At the point where this depression begins it approaches very closely another river situated more to the west, namely, the Don. The Don is also navigable, its upper part traverses the "black earth," while its lower part flows amongst chalk and sand. The third most important Russian river which flows southwards is the River Dnieper, one time a frontier river between the ancient kingdom of Poland and Russia. It draws its waters from the Pinsk

marshes, but its navigation is hampered by cataracts. All these three rivers are of great importance to Russia, because they constitute ways of navigation across the richest part of the Russian Empire. Rivers which have their outlets in the Baltic and White Seas are much shorter, and their importance can hardly be compared with those on the south. The Vistula, the main river of Poland, would no doubt compete, as regards importance, with the southern rivers, as it crosses thickly populated and very developed regions, but being politically divided into three sections, viz. Austrian, Russian and German, it is deprived of its advantages. The same is the case with the River Niemen. In this respect, the Dvina of the Baltic and the North Dvina of the White Sea are better situated. The latter, however, crosses the poorest parts of northern Russia. The Neva, very short, but very wide and deep, derives its importance from the fact that it connects the Baltic Sea with the large Russian lakes of Ladoga and Onega, and that the capital of Russia is built on its embankment.

Apart from the lakes mentioned, there are many others, and this part of Russia is sometimes called the Russian lake-district. In reality, these lakes commence in East Prussia, they appear in the Baltic Provinces, then in the governments of Pskoff, Novgorod, Petrograd, and through almost all Finland.

The far northern part of Russia is constituted of barren tundras. The climate of excessive severity permits no trees to grow, and the land consists of stony regions on the north-west, which spread southwards through the whole of Finland. The north-eastern shores of the Arctic Ocean are composed of frozen marshes. A little southwards pine forests commence, and a line drawn from the top end of the Baltic Sea to Archangel and thence as far as the Ural Mountains represents the northern limits of rye

cultivation ; while the limits of wheat terminate on a line drawn across southern Finland and the Lake of Ladoga eastwards. The limits of oak represent a line drawn from Petrograd to Kazan. A little more to the south, parallel to it, begins the limit of fruit trees. Forests are the main feature of the northern half of Russia, while the steppes are features of the southern. This is the result both of soil and climate. South-eastern Russia is not only warmer, but dryer than south-western Russia. Its soil consists not of clay, stone or sand, but of the richest humus soil, sufficient to raise enough cereals to feed not only the whole of Russia, but the whole of Europe.

The Russian climate is essentially a continental climate. The winters are severe and the summers are very hot. While in eastern Russia mercury is often frozen in winter, in the same part the grass is burnt by the heat of the sun in summer. There is practically no spring or autumn. The transition from winter to summer and from summer to winter takes only a few weeks, and barren trees are in that time covered with foliage. Even the poorest of the Russian peasantry have to wear fur coats in winter, while in summer, ~~the~~ the same people have only linen attire. Bare-footed women, with only one long, loose robe, cut the corn, and the men wear linen shirts and pantaloons. Of course, the climate of Poland is much milder, and resembles that of Scotland and northern England. Russia, however, has her own Riviera, with a beautiful Mediterranean climate. Indeed, the Crimea can compete with Italy in its vineyards, its scenery, and its mildness of climate, and is the summer resort of the wealthy classes.

The steppe regions, the home of the Cossacks, are in summer exceedingly hot for Europe. They are not, however, so cold in winter as the central regions. The steppes can be compared to the American prairies. At one time they were nothing else but a sea of grass. Now, however,

they are being more and more cultivated, and with the railways traversing them, they are losing their former appearance.

Russia is a country very rich in natural resources. Probably it is the only country in Europe which is capable of being entirely self-supporting. It has nearly all the raw material requisite. It is often considered an entirely agricultural country, but this view is only correct to a certain extent. If agriculture predominates, this depends not so much on the physical features of Russia as on the Russian people, who are only now beginning to do what we have been doing for a hundred years.

The country north of the line of railway from Petrograd to Ekaterinburg on the border of Siberia and passing through Vologda, Viatka and Perm, and comprising the northern part of European Russia, has no town of any size whatever, with the exception of Archangel. It is practically an unexplored country of virgin forests of almost incalculable wealth, and is the property of the State. In fact, the Russian Government is probably the richest in material resources in the world, holding in its own name as apart from its citizens thousands of square miles of land rich in timber and minerals, and adapted for agricultural purposes. The vast resources of the Tsar and the Royal Family, hitherto held by them in a semi-official capacity, are also now the property of the State. The timber of this region is cut down in winter, conveyed in summer by rivers to the White Sea, and then shipped to distant lands.

Turning further to the south, we find the Baltic Provinces and the Lithuania countries, which, while they cannot boast of gold, coal or iron, produce the finest flax. In the immediate neighbourhood of Lithuania lies Russian Poland. It comprises one of the great manufacturing centres of Russia. The Moscow district has hundreds of

textile and scores of other factories within a radius of 200 miles, and is to-day the greatest centre of Russia's manufacturing activity, many of the Baltic and Polish factories having moved to this district. The south-western part of Poland has rich coal mines extending from Silesia. There is also zinc and iron. In the town of Lodz, the Manchester of Poland, are situated enormous textile factories. Next in natural resources is the region watered by the River Don.

In the Donetz basin, north of the Sea of Azov, are found coal and iron, and some of the districts with their mines, blast furnaces and iron and steel works, vie in importance with the great industrial centres of this country.

During the Great War this region has been the main source of Russian iron and coal, so indispensable to the production of munitions. From here trains loaded with coal have been running to Moscow and Petrograd. Thus it has become the most important centre of Russian productive power. Northward from the Donetz basin in central Russia there is also an abundance of coal and iron in regions passing from south to north round Moscow.

On the borders of Siberia are the Ural Mountains, with Ekaterinburg as their centre, and branching out for some hundreds of miles with railways specially constructed for the purpose, are the noted mines of gold, silver, platinum and other metals.

The resources of these regions are not only unexplored to their fullest extent, but even they have not yet been thoroughly investigated. Suffice it to say that there is coal on the surface, and that there are entire hills of iron ore.

Only the more precious minerals, such as gold, platinum and copper, as well as precious stones, are mined to any extent. Unlimited possibilities lie in the future for enterprising men. The present difficulties in regard to the

Ural district lie mainly in the lack of communication. With the general progress railways will be constructed, and those who may happen to be in possession of the richest of the Urals before such time will make their fortunes.

The Caucasus is the name given to the peninsula about the size of France lying between the Caspian Sea on the east and the Black Sea and the Sea of Azov on the west. It is generally included in Europe, though it strictly belongs to Asia, and a century ago a good part of it belonged to Persia. It is divided into two parts by the Caucasian Mountains, a range nearly three hundred miles long and the highest in Europe. Communication is made between the northern and southern halves by a railway skirting the shore to Baku, whence it comes back to Tiflis in the southern part. The celebrated Georgian military road, about one hundred and fifty miles long, traverses the mountains and comes out at Vladikavkaz, the most southern town of the northern half of the Caucasus.

The Caucasus is most interesting on account of its physical features, the magnificent mountain scenery, its spas with their curative mineral waters, its sixty-seven tribes and over one hundred languages and dialects, its heterogeneous collection of Armenians, Circassians, Georgians, Tartars, Persians, Kurds, Jews, and Greeks, as well as Russians, and its bizarre towns with their Eastern bazaars.

In natural resources it has abundance of silver, lead, copper, zinc, bismuth, nickel, mercury, manganese, iron, antimony, gold, sulphur, graphite, coal, peat, petroleum oil, asphalt, common salt, sodium carbonate, glauber salts, copper and iron sulphates, gypsum, marble, building stone, serpentine, cement stone, chalk, fire-clay, kerosene, lithographic stone, mill stone, asbestos, red oxide, ochre

and other products, few of which have been worked, with the exception of manganese and petroleum. The northern district is very largely devoted to agriculture, although coal, cement and glauber salts from the lakes are comparatively recent industries, as is also the oilfield of the Maikop district. In the south the principal oilfield is that of the Baku. There are, however, some large cotton mills in the neighbourhood of Petrovsk and Derbent.

Some of these districts will probably have autonomous government, but for the purpose of commercial relations the situation will be practically unaltered. In fact, the concentration of effort in developing their agricultural and mineral resources will be all to the good.

Apart from this wealth, there is an abundance of animals, such as foxes, bears, beavers and sables, which supply the European market with skins. Unfortunately, they have been sent in the rough state to Western Europe, chiefly to Germany, and then dressed in Leipzig and sold in London and elsewhere. The Russian rivers and lakes have an abundance of fish of the greatest delicacy.

It is so well known and so often stated that the large percentage of Russians are peasants, or engaged in agriculture, that we are apt to overlook the fact that twenty-five millions of Russians live in towns. This is equal to more than one half of the population of the United Kingdom. There are over one hundred and twenty towns, each with a population of over twenty-five thousand inhabitants, as compared with about two hundred in this country. Both Petrograd and Moscow have normal populations twice the size of any town in Great Britain except London, while at present their populations, owing to the influx of refugees, are each nearly four millions. The following table of estimated population in 1913 may be of interest, and will indicate the towns best worth approaching from a business standpoint. The figures are taken from

the latest official returns, but in many cases are much larger to-day, owing to the influx of refugees and changed conditions arising out of the war. It should also be borne in mind that as these towns are usually hundreds of miles apart, their trade is by no means confined to the populations of the towns themselves, but that they draw from a very wide area, often with a large population.

Based on 1920 Census
POPULATION OF PRINCIPAL TOWNS IN RUSSIA

Petrograd	2,018,000	Penza	79,000	Petropavlovsk	43,000
Moscow	1,675,000	Byelostok	78,500	Radom	40,000
Warsaw	771,000	Krasnoyarsk	77,000	Usovka	37,000
Kiev	626,000	Kremenchug	„	Theodosia	37,000
Odessa	625,000	Poltava	„	Petrokov	„
Lodz	510,500	Smolensk	75,000	Riazan	36,000
Riga	440,000	Perm	„	Askhabad	35,500
Baku	338,815	Sevastopol	„	Archangel	35,000
Tiflis	300,000	Kursk	70,000	Kars	33,500
Saratov	268,000	Tambov	69,000	Semipalatinsk	34,000
Kharkov	249,000	Simferopol	68,000	Pskoff	„
Ekaterinoslav	228,000	Kherson	67,000	Viatka	32,500
Tashkend	201,000	Taganrog	66,500	Zlaboust	32,000
Kazan	189,000	Kronstadt	66,000	Bakhmut	33,500
Vilna	183,000	Lublin	65,000	Barnaul	33,000
Buzuluk	165,000	Andizhan	„	Liumen	32,500
Rostov	160,000	Khabarovsk	63,000	Erivan	32,000
Samara	150,000	Novorossisk	61,000	Chernigov	„
Astrakhan	147,000	Chelyabinsk	„	Vladimir	„
Helsingfors	137,000	Elets	60,000	Yakoutsk	31,000
Tula	132,000	Kovna	58,000	Nikolaevskia	31,000
Kishineff	131,000	Blagoveshchensk	57,000	Nikolaevsk	„
Nikolaiev	130,000	Simbirsk	56,500	Rybinsk	„
Omsk	127,000	Mohilev	56,000	Batoum	30,000
Kokand	122,000	Stravropol	54,000	Kielce	„
Irkutsk	120,000	Kalouga	„	Plotsk	„
Revel	116,000	Grodna	53,000	Tsarskoe-Selo	„
Dvinsk	111,000	Novocherkassk	„	Vologda	29,000
Tomsk	„	Vladikavkaz	„	Vladivostok	„
Yaroslavl	„	Mariupol	52,000	Azof	28,500
Njni-Novgorod	110,000	Koutais	50,000	Bryansk	„
Orenburg	„	Kostroma	47,500	Lomzha	27,000
Ekaterinburg	108,000	Tomel	47,000	Novgorod	„
Oufa	103,500	Abo	„	Vyennui	„
Minsk	103,000	Brest-Litovsk	„	Sergievo	26,000
Elisavetgrad	100,500	Kamenetz-Podolsk	„	Armavir	„
Chita	94,000	Elisavetpol	48,000	Yalta	25,000
Ekaterinodar	90,000	Kalish	„	Eupatoria	„
Orel	„	Pyatigorsk	„	Souvalki	„
Libau	„	Syzran	45,500	Kalach	„
Zhitomir	„	Mitau	45,000	Kourgan	„
Samarkand	89,000	Tammerfors	„	Viborg	„
Vitebsk	81,000	Uralsk	„		

IV

THE LANGUAGE

Some knowledge of Russian essential—French and German of very little use—Scientific and business words—The alphabet characters—Divergence due to transliteration—German spelling of Russian names—Family names—Dialects—Learning Russian—What to learn—Englishman has more facility than the German—Fault of phrase-books.

AS some knowledge of the Russian language is absolutely essential to the traveller who visits Russia on business, a few words on this subject may not be out of place in a commercial book. In the first place, let me say that French and German are of very little use. In a six months' tour there were perhaps three occasions where French came in useful, and three or four where a knowledge of German came in very handy. The latter were, however, entirely in Petrograd. Formerly there was a great deal of German spoken in Petrograd and the Baltic Provinces, but its use was entirely forbidden, and notices to that effect abounded in all the hotels and public offices. It is too much to expect that German speech will be tabooed after the war, but even then the traveller will find very little use for it outside the district mentioned. French is largely a "society" language, and comparatively little used in business, though in the larger offices there will usually be found a clerk who understands that language. One can get along fairly well with English in the larger cities, though many occasions will arise where Russian is obligatory, and in any case it is absolutely necessary in asking one's way in the street,

giving instructions to the cabman, purchasing railway tickets, ordering meals in a restaurant, and the thousand and one amenities of daily life.

The Russian language belongs to the Slavonic group of languages, to the group which embraces also Polish, Bohemian, Bulgarian, and Servian. Hence, it is very easy for a Russian to learn those languages in a short time. For example, a Servian can read with very little study a Russian newspaper. Nearly all scientific and many business words that have been coined during the past century are practically the same in Russian as in English. Photograph, engineer, bank, cement, electrical, premium, telegraph, telephone, catalogue, cheque, credit, are a few words taken at random, that are to all intents and purposes the same in both English and Russian, and would be readily recognised. A few German words, such as *vokzahl* for railway station and *droshky* for cab, have also been incorporated into the language. Russian is, however, nearer to English than Hungarian, Turkish, or Chinese. But the similarity of the Russian tongue to our own is nowadays remote. It can be traced in such words as *mat* (mother), *dva* (two), *tri* (three), *syn* (son), *docher* (daughter), *voda* (water), etc. But such words are comparatively few, and others are so much altered that they are of very little use to the English student.

The sources of Russian civilisation are derived from Grecian and Byzantine, and not like ours, from Roman models. This difference is illustrated by the respective alphabetic characters. While we use Latin characters, the Russians have the so-called Cyrillic characters, and those who know the Greek alphabet can easily read the Russian letters.

But the real difficulty with the Russian language is not, as many people suppose, its characters. These can easily be mastered in a few weeks, and more trouble is

experienced with those that are similar to English letters, but pronounced differently, than with those that appear at first to be hieroglyphics. One has to remember that B is pronounced V, H is N, P is R, C is always S, Y is OO, etc. But when once the thirty-six characters have been mastered, it is comparatively easy to pronounce any word in Russian, as it is entirely a phonetic language, every word being pronounced as it is spelt, and therefore free from our anomalies, as "ough," etc. The flexibility of the Russian language, while allowing much finer grades of expression, makes the grammar very difficult. For instance, there are fourteen different forms for the Russian equivalent for our word "blue," and more than a score of cases, numbers and genders in which they are used. Even the names of towns and persons undergo the terminal change according to the case, and "Mr. Cook" becomes "Mr. Cookoo," "Mr. Cookie," etc., according to circumstances. As all English names have to be transcribed phonetically into Russian characters, there is less danger for a Russian pronouncing one's name wrongly than for an Englishman. Not all English sounds, however, can be found in Russian; our H, for instance, does not exist in modern Russian. Thus the English name "Whitehouse" is transcribed into Russian "Ghitegouse"; the town "Hull" will be "Ghull," the gh taking the place of our English h. As in most continental languages, our sound th does not exist in Russian, and the name "Thornton" would be transcribed "Sornton."

At various periods of Russian history, the Russian language has borrowed many foreign words, and has been under various influences. During the seventeenth century, for instance, many terms needed to express European things and ideas had been supplied by the Polish language. This influence could be traced not only in the vocabulary, but also in the way of spelling some Russian words if in

Latin characters in the Polish fashion. Transliteration has produced a marvellous result in the spelling of words, as the Germans, Dutch, French and English have their influence also. This is why there exists such a divergence in the spelling of names of persons and places when in Latin characters. It often happens, for instance, that in two telegrams from Russia published in the English papers, the same place is mentioned, but the difference in spelling is so remarkable that the British public takes it for two quite different places. The Russian who has learnt the Latin alphabet in Poland will spell the name of a village "Zukowo." Should he, however, know French, he will spell the same name "Joucovo." As another example, an important town which phonetically sounds in English "Chernigov" will be spelt by one as "Czernihow," while by another "Tchernigoff," the latter evidently new German.

This brings me to a point on which I feel very strongly. Russian characters have similarly to be transposed phonetically into English. In most of the maps published, and in many books, as well as in much business correspondence, the names of Russians and Russian towns are spelt as the Germans would spell them to give the Russian sound. Viborg is what the Russians call the town in Finland, and to get that sound the Germans would spell it Wiborg. The guttural kh of the Russians has a corresponding sound in the German ch, and hence "Char-koff," "Cherson," etc., which should be "Kharkov," "Kherson," etc. I had a letter from an English firm to one of their customers, a "Mr. Juanow," and after a great deal of trouble, eventually discovered the name to be "Ivanov," the English firm having done their business through a German agent. I hope those responsible for the education of our young men in Russia will look after this feature of transliteration.

Every Russian's middle name is that of his father, with the suffix "vitch." John Jones, if his father's name was Alexander, becomes Ivan Alexandrovitch Ivanov; if his father's name was William, it is Ivan Vasilivitch Ivanov. The termination "vitch" never appears in a proper name, and among friends and even business acquaintances, the middle name is usually employed.

The Russian language has several dialects. The literary Russian is the Moscow dialect, and although about thirty millions in the south of Russia speak the Little Russian or Luthorian dialect, and about ten millions in western Russia speak the White Russian dialect, the literary language, the language of the enlightened classes, is everywhere uniform, and these dialects could only interest a scientist in his linguistical researches. They are nothing like so distinguished as in this country, and the foreigner hardly notices them as they are largely confined to the poorer classes.

To learn the Russian language grammatically would take several years; to learn it sufficiently for ordinary practical purposes is a matter of months. With about three months' preparation before I went to Russia, and with a few weeks' practice in the country, I found myself getting along very comfortably, although for ten days at a stretch I neither heard nor spoke a word of anything but Russian, and visited several outlying towns, such as Viatka, Vologda, etc., where there was nobody, so far as I knew, who spoke English. I bought my railway tickets, hired cabs, engaged rooms at the hotel, ordered my meals, inquired my way about, the times of the trains, etc., without any difficulty. This was, however, due as much to the patience and kindness of the Russians as to my knowledge of the language. Never once did I get the Russian "don't understand" to my first inquiry. If they did not catch my question, and often they did not, there was

always the "how?" "where?" "what?" and an attentive listening to my repetition of the question, that was usually sufficient to overcome my bad pronunciation and faulty grammar. I have never met a people who took so much pains to understand a foreigner as the Russians, none who showed so much sympathy with and appreciation of a foreigner's attempt to speak their language. In fact, everyone seemed to take a delight in teaching, and every steamboat and train produced willing teachers of all ages and conditions, generals, merchants, school-masters, and even little children, all delighted to point out and name things and to construct the sentences to carry on conversation.

My advice, then, to anyone contemplating visiting Russia is to at least master the characters of the Russian alphabet, learn a few hundred words of ordinary use and the numbers from one to a thousand. It will add enormously to the pleasure of the trip, prove a most economical factor, and materially aid in his business pursuits.

It is hardly possible for the pronunciation of the Russian language to be learnt without the help of a teacher, if the student learns or studies it for a practical use. Apart from Russian grammar being very difficult, there are hardly any rules concerning accent, which varies in different words and makes a wonderful difference in the sound. Moreover, phonetical spelling often can give only a very rough idea of some sounds, especially those which do not exist in English. Notwithstanding this, when once an Englishman has heard a Russian word pronounced distinctly, he can usually repeat it correctly. He has much more facility in this than a German. The German, for instance, is never able to pronounce "ll," as it sounds in the English "well," "beautiful," etc. The Russian sound "kh" can be found in the Scotch word "loch."

A Russian word " byll " (he was), would be pronounced by a German after many years' residence as " beel." But no Englishman would find this word difficult to pronounce. The sound " y " such as we have in the word " rhythm " is followed by double l, as in our word " bill." The Russian sound " shtch " or " shch " might frighten at a first glance, and yet we have the very sound in our own language. If we can say " bluish china " there is no difficulty in pronouncing the Russian word " ishchi " (search thou).

The usual fault of all books containing dialogues is that the sentences selected are long and difficult, and the language used is bombastic. A story is told of a Russian wishing to order beef-steak in a London restaurant, who opened his manual and commenced to read with the greatest difficulty, " May I ask you if you would be kind enough to give me some hot beefsteak, if you please." Half-way through the sentence, however, he was engulfed in such difficulties that he began to read again from the commencement, with about the same success. An Englishman was sitting next to him, saw the book, smiled and said to the waiter, " Beefsteak, please." So in Russia, " Where is the station, please ? " which takes three words in Russian, would be much more readily understood than the usual phrase-book inquiry.

But learn it from a competent teacher, and preferably a Russian. There are teachers who teach with a decidedly German accent, and there are those whose Russian is as much understood as a broad Lancashire accent would be understood in Devonshire.

V

THE PEOPLE

Characteristics—Races—The White Russians—The Great Russians—Their towns—Villages—Dress—Little Russians or Ukrainians—The Poles—The Letts and Lithuanians—The Germans—The Jews—The Mongolians—The Ural group—The Finns—The Turkish group—The Bashkirs—The Khirghizes—The Cossacks.

THE varieties of people and languages in Russia are almost as great as its physical diversities, and range from purely European types to distinctly Mongolian characteristics. Wide distinctions are shown in type, custom and dress, but much less in character than would be supposed. The average Russian is an overgrown child with a curious mixture of idealism and primitive impulse. He is easily influenced whether by appeals to his primeval passions or to the “broad sympathy” upon which he prides himself. At a public meeting I have known the speaker receive uproarious applause when he stated that a certain course of action had been decided upon ; to be followed by an equally noisy demonstration of approval when he went on to say that after further consideration an altogether different plan was to be pursued. They are inquisitive to the point of what we should consider rudeness, but are equally communicative of their own domestic and business affairs, and look upon mutual confidences as a sign of friendship. They are prodigal and almost ostentatious in their hospitality. Fond of music and dancing, they, however, like books and plays of the most gruesome character, and while they have a sense of humour

peculiarly their own, it is not very self-evident to an Englishman. They indulge very little in sports, though horse racing and trotting of a kind take place all the year round at most of the principal towns, and in summer-time last from noon until about eight o'clock, and include eighteen or twenty "events." Card playing is practically unknown except among the richer classes in the big cities. Russians are victims of a weird fatalism which finds its expression in the most-used Russian word "nitchevo"—"nothing"—"it doesn't matter." It helps to take things philosophically if one misses a train, or finds it seven hours late ; if a purse is lost, or a leg is broken.

Closely corresponding in frequency of use is "see-chass," supposed to mean "in a minute," "at once," but which literally interpreted is "within the hour"; and this is its usual actual meaning. The Russian never, under any circumstances, hurries, and very seldom worries.

Still, when all this has been said, he is the most lovable of fellows, sympathetic, kind-hearted, ingenuous and almost childlike in his simplicity, and if you make a friend of him and he feels that you are in sympathy with him and what interests him, he will do almost anything for you.

Most of the Russians are Slavs of Aryan descent. Their original home was on the Upper Dnieper and the Upper Dvina, whence they gradually spread over the whole country, branching into several different peoples. The most important Slav people is the Russians, who number about 100,000,000, and so account for 75 per cent. of the population of European Russia. All of these are members of the Greek Catholic Church or its sects. They are divided into three stocks: the Great Russians (the standard-bearers proper of the Russian feeling of nationality), the White Russians, and the Little Russians. The first two of these are closely connected as regards language.

The White Russians occupy what were probably the original homes of the Slavs in White Russia (provinces of Minsk, Mohilev, Vilna, Vitebsk and Grodno). They number about eight millions, and probably derive their name from the light colour of their clothing. They are the poorest and least advanced of the three stocks. Their villages are small, and solitary farms are frequent. A disease of the hair known as *Plica Polonica* is very common among them.

The Great Russians, of whom there are 62,000,000 in European Russia, migrated in early times from their original homes towards the East, driving the Finnish peoples before them. They have, however, to some extent mingled with the Finnish race, which probably accounts for the broad faces, flat noses, and other Mongolian features found frequently among them. They now occupy not only "Great Russia" (i.e. North and Central Russia, with the north-east part of the Black Earth region), but also East and South-East Russia, the former territory of the Tartar Khans. Their speech, customs, and character are spread over the whole empire. Physically they are blond, blue-eyed, and vigorous, with broad shoulders and bull necks, often somewhat clumsy and with a strong tendency to obesity. Their character has been influenced not only by a long history of subjugation to feudal despotism, but also by the gloomy forests, the unresponsive soil, and the rigorous climate, and especially by the enforced inactivity of the long winters. In disposition they are melancholy and reserved, clinging obstinately to their traditions. They are easily disciplined, and so make excellent soldiers, but have little power of independent thinking or of initiation. The normal Great Russia is thus the mainstay of political and economic inertia and reaction. Even the educated Russian gives comparatively little response to the actual demands of

life ; he is more or less victim of fancy and temperament, which sometimes lead him to a despondent slackness, sometimes to emotional outbursts. Here we have the explanation of the want of organisation, the disorder, and the waste of time which strike the western visitor to Russia. This pessimistic outlook finds expression in the word that is for ever on Russian lips—"nitchevo"—"it doesn't matter" ; the Russian derives his faults as well as his virtues from his "wide nature." The important and fascinating literature of Russia reflects this dreamy and melancholy outlook on life, which is seen also in the national songs and music.

The towns of Great Russia generally cover a great deal of ground, and are all laid out on the same pattern. The centre is occupied by a spacious square, from which radiate broad and badly paved streets crossing each other at right angles. In the central part of the town the houses are built of stone and painted white, yellow, or pink. The public buildings seldom possess any architectural interest. In the suburbs the houses are of wood, and stand at considerable distances from one another. The only effective architectural features are the large churches, which generally stand in open spaces at the intersection of the streets. Their gilded, silvered, or brightly coloured cupolas are very conspicuous. The commerce of the place, especially its retail trade, is often concentrated in Oriental fashion in bazaars or "factories." Each shopkeeper has his abacus and samovar or tea-machine. A large proportion of the population wear uniforms, including not only soldiers, but civil servants, students, schoolboys, and so on.

The villages generally consist of one long straggling and unpaved street. In North Russia the miserable houses are composed of logs placed horizontally one above the other, the interstices being filled in with tow and moss.

The interior consists of a single room. The brick stove is used for heating, cooking and baking, and also as a couch and bed. Every house in town and country has its ikon, with a perpetually burning lamp, before which every Russian crosses himself on entering the room. The court is surrounded by an open shed, adjoined by the stables, barns and threshing-floor. Every village possesses a simple kind of vapour bath, which is much frequented, especially on Saturdays.

The regular dress of the Great Russian peasant consists of a coloured shirt, generally of red cotton, which is worn outside the trousers and not tucked in. Broad leather boots reaching to the knees, or puttees, fastened to sandal-like bast shoes, cover the ends of the coloured and baggy trousers. In winter felt boots are common. The long-skirted coat, with a low collar, is held together by a belt or coloured sash. In summer the upper garment is the armyak, made of coarse cloth with a broad collar, in winter the sheepskin tulip or the fur shuba. The head is covered by the low shapka, made of felt or fur, or by the peaked kartuz. The ordinary Russian lets his beard grow, and allows only the hair of his head to be cut. The chief garment of the women is the sarafan, a skirt and bodice with shoulder-straps, all in one piece, or the panyova, a linen skirt. Above these is a short kaftan. Round the head they wear a gaudy handkerchief, which is often replaced on holidays by a sort of tiara adorned with imitation pearls.

The Little Russians (30,000,000), or Ukrainians, are settled in the Black Earth district (i.e. in Little Russia proper) and in the Ukraine, which includes the provinces of Kiev, Poltava, Kharkov, and Tchernigov. They are also found in Volhynia and Podolia, whence, under the name of Ruthenians, they spread into Galicia and North-East Hungary. In recent times they have also colonised

Bessarabia, Kherson and Taurida, in which provinces they now form a majority of the inhabitants. They are slender and dark, and they have the emotional southern temperament ; their poetry and music are of a high order, as is evidenced by their popular songs and proverbs. Their dialect is very different from those of the Great and White Russians. The settlements of the steppes are still more straggling than those of the forest region ; owing to the lack of timber, the houses are generally built of mud or clay. The Ukrainians in the present crisis claim territory to the north as far as the Governments of Kursk and Voronezh, and to the east as far as the Donetz Basin, whereas the Russians seek to confine Ukrainian autonomy within unduly narrow limits. The final settlement of the boundaries between the two will depend not so much on the nationality of the inhabitants as on the development of events in Northern and Central Russia.

A unique position is held by the Poles, a Slav race occupying the Russian part of the old kingdom of Poland. They are also to be found sporadically throughout Western Russia, which was formerly under their sway. Their total number is about 10,000,000. Their history and their mode of life as well as their religion (they are Roman Catholics) all bring them into much closer connection with Western Europe than with Russia. The Polish language is a member of the Western Slav family, employing Roman characters. The Poles are of the middle height, with slender but muscular bodies and light hair. The contrast between the lower classes and the noblesse is very striking, the latter being physically and in character refined to an almost excessive pitch of elegance. Polish women are renowned for their grace and beauty.

To the Slavs also belong, broadly speaking, the Letts (nearly 2,000,000), who occupy Courland and South

Livonia, and the Lithuanians (15,000,000), who form the bulk of the population in Russian Lithuania. The former are Lutherans, the latter Roman Catholics.

× The non-Slavonic Aryans in European Russia number 4,000,000. The most numerous are the Germans (2,000,000), who are the country gentlemen and citizens of the Baltic Provinces in virtue of their descent from the former masters of the country. There are also agricultural settlements of Germans on the Upper and Lower Volga, in South-West Russia, and in the Caucasus and the Crimea, many of them established in the reign of Catherine II. German manufacturers, merchants and artisans are found in all the large towns. German influence on Russia has always been considerable. In Finland the Swedes were the pioneers of civilisation. They now number about 370,000, and are especially numerous in the coast towns. Roumanians form the bulk of the population in Bessarabia. Bulgarians and Greeks are also more or less numerous in South Russia.

The Jews (nearly 7,000,000) migrated in the Middle Ages from Germany to Poland, and speak a German dialect intermingled with Hebrew expressions. Many of them now, however, speak the language of the country. They are not allowed to live either in Great Russia or in East Russia. Strictly limited in their privileges, and subject to numerous economic restrictions, as well as to the caprice of the Russian officials, most of the Polish Jews subsist in a state of physical and moral degradation. As a result, they migrate in large numbers to other countries.

The Mongolian race is represented in Russia by 10,000,000 souls, belonging partly to the Ural and partly to the Turkish group. The former are found in the north, north-east and north-west, the latter in the south and south-east. In the province of Astrakhan there are also

170,000 nomadic Kalmucks, who are of pure Mongol blood and profess the religion of Lamaism.

In the Ural group (5,400,000) the Samoyedes, or reindeer-possessing nomads of the Tundra are an insignificant item. The great bulk of the group consists of the Finnish peoples, who were the aboriginal inhabitants of the whole of North and North-East Russia, but were split into two groups, East and West, by the Russian advance.

The East Finns include the Ugrians and the Permiaks, who along with the Syryenians and the Votyaks (650,000 in all) occupy the river districts of the Petchora, Dvina and Kama, and also the Volga Finns (1,860,000) on the Middle Volga, a remnant of a people that flourished in the Middle Ages (Tcheremisses, Mordvins, Tchuvashes). They are all agriculturists, and occupy colonies interspersed among the Russians. They have, however, mingled freely with their Russian neighbours, and thus present no distinct Mongolian type. They belong to the Greek Catholic Church.

The West Finns comprise two main stocks. The Finns proper including the Karleians (3,000,000), live in Finland and the adjoining parts of Russia. They are also strongly mixed with Aryan blood, and are consequently fair-haired, blue-eyed, strong and of medium stature. Civilised by the Swedes and converted to Protestantism, they have considerable achievements to show in science, art and literature. Their patriotism is very keen and they cling obstinately to their own language. The Estonians (about 1,000,000) are also Protestants, and inhabit Estonia and the north of Livonia. With these may be mentioned about 3000 Lapps, who live in the extreme north of Finland and in Kola as reindeer-owning nomads and fishermen. They are small in stature and of a strong Mongolian type. A few Tchudes and Livonians also belong to this group.

The Turkish group, all of whom are Mohammedans, is predominantly represented by the Tatars or Tartars, descendants of those tribes of the Turkish family who migrated from Central Asia along with the Mongolians and once dominated the whole of East and South Russia. They have now, however, almost lost their Mongolian features. Geographically, they are divided into agricultural Crim Tartars, whose number (200,000) is constantly decreasing through emigration to Turkey, and Kazan Tartars (2,000,000), who are known in the province of the Volga not only as agriculturists, but also as shrewd merchants and pedlars. They are also met with throughout Russia as waiters and porters. The Kazan Tartars are of the middle height and light yellow in colour, with an oval face, narrow and oblique black eyes, and scanty beards.

Their costume consists of a long sleeveless coat surmounted by a kind of kaftan. The head is shaved and covered with a skull cap, over which the ordinary man wears a white felt hat or a grey or black fur cap. The well-to-do classes wear a finer fur cap, broader at the top than at the bottom. Their feet are shod with bright-coloured morocco-leather boots without soles, and slippers or leather overshoes. Their mosques are large and simple prayer-halls, dominated by a minaret.

The Bashkirs (1,400,000), in the provinces of Ufa and Orenburg, are a Finno-Turkish mixed race, speaking the Turkish language and having Mongolian features. The Mountain Bashkirs, a tall and strong race, with dark hair, had their own military organisation ("Bashkir Army") down to 1874, and are now in a transition state between the nomadic and the settled life. The Steppe Bashkirs, the result of intermixture with the Meshtcheryaks, are still all nomads, but live in houses during the winter. They subsist mainly on kumiss.

The Khirghizes are a Turkish nomadic race, extending

from Central Asia to the Lower Volga. In the province of Astrakhan, where they live side by side with the Kalmucks, they number 250,000.

The Cossacks comprise between three and four millions of the Russian population, endowed with certain special privileges, and bound in return to give military service under special conditions. They constitute ten separate Voiskos, settled along the frontiers : Don, Kuban, Terek, Astrakhan, Ural, Orenburg, Siberian, Semiryedhensk, Amur and Usuri. The Don Cossacks have over a million and the Kuban Cossacks over three-quarters of a million, the rest being relatively small. The Don villages hold their land as a Commune, and may allow other persons to settle by paying rent. The village assembly elects its hetman or elder, assesses the taxes, divides the land and settles ordinary disputes. Military service is obligatory for all men for twenty years beginning at eighteen. The first three are spent in training, the next twelve on active service, and the balance in the reserve. Every Cossack is bound to provide his own uniform, equipment and horse (if mounted) ; the Government only supplying the arms. In return for this service the Cossacks have received from the State considerable grants of land for each Voisko separately.

The central administration of the Ministry of War was composed of representatives of each Voisko, who discussed all new laws affecting the Cossacks. As a rule, popular education stands at a higher level than in the remainder of Russia. They have more schools and a greater proportion of their children go to school. In addition to agriculture, which is usually sufficient to supply their needs, they carry on extensive horse and cattle breeding, fishing and hunting. The extraction of minerals and the factories on their lands are usually in the hands of strangers who pay rent.

VI

THE BIG CITIES

Petrograd—Government orders—The shops—Hotels—The British Club—
Russo-British Chamber of Commerce—The Embassy—*Moscow*, the pride
of Russians—The Kremlin—Muir and Merrilees' department store—The
shops and arcades—A manufacturing district—The English Club—The
British Consulate—*Odessa*, a cosmopolitan city—*Nikolaiev*—*Kherson*
—*Warsaw*—*Rostov-on-Don*—*Baku*—*Omsk*—The Vice-Consuls—*Kiev*—
Lodz—*Riga*.

THE big cities of Russia are by no means confined to *Petrograd*, *Moscow*, *Warsaw*, and *Odessa*. The list of towns and populations on another page give some idea of the importance of urban centres, but in many cases these figures have been largely increased during the war, in some cases temporarily, through the influx of refugees, many of whom have settled down and will remain, and in others by a natural permanent increase. Both *Petrograd* and *Moscow* have now well over two million inhabitants, and are each twice as large as any English town, with the exception of London itself. *Odessa*, with its half-million population, is about the same size as *Leeds* or *Sheffield*, *Baku* is as large as *Newcastle-on-Tyne*, *Astrakhan* as *Sunderland*, *Ekaterinoslav* as *Cardiff*, *Kazan* as *Oldham*, *Kharkov* as *Plymouth*, *Kiev* as *Bristol*, *Kishineff* as *Halifax*, *Rostov-on-Don* as *Nottingham*, *Saratoff* as *Hull*, *Tiflis* as *Bradford*, *Tula* as *Preston*, and *Yaroslavl* as *Middlesbrough*.

Petrograd is as flat as a pancake. There are no hills in the immediate vicinity. There are no towns of any size within some hundreds of miles. It is therefore self-

contained, and so far as its shops are concerned, depends almost entirely upon the local population. It is, however, the seat of numerous and diversified industries ; it is one of the principal ports of entrance to the Russian Empire, and it is the centre of Government. Moscow shares with it the honour of being the capital, but all the Government administrative buildings were at Petrograd, Moscow's share being formerly confined to the coronation of the Tsar in that city. From a business standpoint, Petrograd is most important from the fact that all Government orders are given out here, and, of course, the wants of two million people are very considerable. It is not much of a distributing centre, and wholesale dealers and representatives of foreign manufacturers are not as numerous as at Moscow. There are very few imposing shops in Petrograd, and even the Nevski Prospect, a magnificent and very wide street nearly four miles long, has scarcely a building to admire, except the cathedrals, the grocery of Elisieff Bros., and the Singer Sewing Machine Co.'s establishment. By the way, all the leading thoroughfares in cities are called "Prospect." The nearest approach to a department store is one run on somewhat similar lines to the Army and Navy stores, but on a much smaller scale. There is a shop with some little pretensions in that direction called the "English Magazine," but it is quite a small affair, and the ground floor of the building is occupied entirely by other businesses. The people of Petrograd are, however, very proud of their "Gostinny Dvor," a series of arcades containing shops of every description, and one of the favourite haunts of the ladies. The Morskaia, a short, but imposing street leading out of the Nevski, has some fine bank and insurance buildings, but there are no other streets comparable to the Strand or Oxford Street. Canals intersect the town in every direction, the Neva divides it, and the gold and blue

domes of Russian churches are seen everywhere. Nevertheless, Petrograd is the least Russian of Russian towns, unless Warsaw be excepted. Yet it is not a continental town. There are no outdoor cafés, little in the way of kiosks, very few cabarets. There are three or four very good hotels: the largest and newest, the "Astoria," was almost entirely German, and has been commandeered by the Government; the "Europe," the best known and busiest; and the "Angleterre," a very comfortable and well-managed hotel, where I made my headquarters, are the three principal hotels. All are equipped with telephone in each bedroom, and the charges before the war would bear favourable comparison with those of smaller cities. The day porter usually speaks English, but one has to depend upon Russian for the rest of the staff. German influence predominated in Petrograd, even the banks kept their accounts in German. This has, of course, been changed, and all German names have been taken down from shops, restaurants, etc. There is a British club here known as the *New British Club*, as there is an old club called the "British Club," the membership of which is almost entirely confined to the Russian aristocracy, and which, I believe, contains not a single Britisher. The membership of the New British Club is composed of newspaper correspondents, English managers of the cotton and other mills in the neighbourhood, representatives of British houses, some attachés of the Embassy, and a few Americans. In fact, in most of the English clubs in Russia Americans are equally welcome.

The traveller, and especially the business man, should guard against forming definite conclusions about Russia simply from a visit to Petrograd. It is a good starting point, if only from the fact that as the seat of Government it is central for statistics and general information, but certainly no agent should be appointed in Petro-

grad for the whole of Russia until other parts had been visited, no matter how plausible the tale told. There is a Russo-British Chamber of Commerce at Petrograd, but as none of the officials speak English, save one young clerk, information is not very accessible. I had a conversation with the secretary in French, and he was very courteous and anxious to give all the help possible, but I found the service of and information given by the Chamber of a very meagre and unreliable quality, and do not think that British representatives can look for any real help from that quarter. On the other hand, Mr. Henry Cooke, the Commercial Attaché at the British Embassy, was exceedingly helpful and, though hampered by the lack of even an office room or a typist of his own, himself wrote out the information I desired, and in the hospitality of his own home on several occasions discussed at length the problems of Russian trade and methods.

Moscow, with its Kremlin and its historical associations, is the pride of every Russian. Beautifully situated on rolling hills, from one of which Napoleon saw the fire which blasted his hopes, one gets the first real sense of the Russian atmosphere. There is no other city just like it or nearly resembling it. There is nothing cosmopolitan about Moscow. It is pure, unadulterated Russian from the Kremlin, the Mecca of all true Russians, to the Sunday street market near the old water tower. The Kremlin is the old walled-in city. It contains a palace, three or four churches, some monuments and a number of small palaces, now used as administrative buildings. The shops and streets of Moscow will bear comparison with those of any city. The only department store in Russia is here—Muir and Merrilees' establishment—and it would do credit to London. Nearly every branch of merchandise is represented, and the annual turnover runs into millions of roubles. Its management is entirely British, the chief

directors being the brothers Cazelet, nephews, I believe, of the original proprietors. The building is quite a large one, standing alone, and is situated in the centre of the city with a good-sized annexe on the other side of the street. It is, however, emphatically a Russian store, and deals generally in the better class of goods. The refreshment rooms, which are liberally patronised by Muscovites, whether customers or not, is one of the features of Moscow. The waitresses are of a very superior class, well-educated, and of charming manners. At first they had difficulty in getting this class of girls, and when one of them came to the directors crying, with the explanation that she had been insulted by being offered a tip, there was a danger of a resignation in a body. The difficulty was overcome by getting another set of girls, or rather women, who are more soberly dressed. The waitress now takes the order, and brings the refreshments, while the others clear away the dishes, give the bill and take the tip without any compunction. Lessons in English are given to members of the staff every day by experienced teachers, certain members being released from other duties for the purpose at different times of the day. The Koonesti Most (Blacksmith's Bridge) is the Bond Street of Moscow, and has a number of really first-class shops. A new series of arcades has recently been built in the Red Square opposite the Kremlin. I have seen nothing like it elsewhere. It covers a very large area, and contains avenue after avenue with some hundreds of handsome shops. There are several good shopping streets, while one important street, the Myasnitskskaia, is largely occupied by firms dealing in machinery, engineering, tools, etc.

Moscow is the richest city in Russia. It invariably outranks Petrograd in its charitable collections. Its manufacturers and merchant princes are many of them

millionaires. It is the centre of a huge manufacturing district, extending a couple of hundred miles in every direction. It is surrounded by scores of small manufacturing towns that pay it tribute by their purchases. It is the distributing centre of the entire Russian railway system. Though not a port, it has its own Customs House. It is the headquarters of most of the British firms established in Russia.

Moscow offers the greatest possibilities to British manufacturers of any city in Russia. In everything required by the numerous textile industries of Russia, an agent in Moscow can cover the ground. If only one agent is required in Russia in other lines, Moscow is with few exceptions the best centre, though as pointed out elsewhere, agents in other districts are often desirable.

Moscow has two first-class hotels, the National and the Metropole. They are somewhat superior to those at Petrograd. A feature of the hotels in large Russian cities is that one can telephone from one's bedroom direct to anyone on the telephone exchange without payment. If your room is No. 419 at the National, then 419 National is your telephone number, and your room your office. A telephone directory, a writing table with electric reading lamp is part of the equipment. The numbers in the telephone directory are always divided thus 1-35-17, so that if you want number 13517, you ask for "one, thirty-five, seventeen." Nearly everyone has a telephone, there are no exchanges, and so the numbers run into high figures.

The English Club in Moscow has its headquarters at the National Hotel, where it has a suite of rooms. Its members are mostly agents or representatives of British firms, and some managers of local factories, with a few Americans.

The Consulate was at the time of my visit in charge of

Vice-Consul Lockhart, Acting Consul, who, as the sole representative of British interests in the city, has a great deal of more or less diplomatic functions to attend to, precluding him from giving that attention to commercial matters that he would probably desire. More time can be profitably spent in Moscow than in any other city, but even now there remain places to be visited before one can say that he has seen Russia, or thoroughly understands the problem he has set out to investigate.

Odessa is the most cosmopolitan city in Russia. Here, for the first time, are found open-air cafés, and the usual indications of a continental city. It is very enterprising, one-third of the population being Jews, among the shrewdest of Russia's population. There is a business activity seen in no other Russian town, and the two leading cafés are practically exchanges where everyone meets between 11 and 12 a.m. Shipping and the export of grain are its principal business, though there is a thriving trade in normal times in agricultural machinery and general merchandise. It is the centre of a busy district, as well as the principal port in South Russia, and the chief point of distribution in the Crimea. While there are some excellent firms and reliable agents in Odessa, no town in Russia requires such careful handling if one wishes to avoid difficulties and bad debts, and all that has been said about the necessity for caution applies with double force to Odessa.

The London and the Petrograd are the two principal hotels, but are not up to the standard of those at Moscow and Petrograd.

The British Consul, Mr. J. F. Bagge, has recently been promoted to the position, after serving several years as Vice-Consul in various parts of Russia. I found him very enthusiastic and painstaking, and he rendered me valuable assistance, as did a veteran employee who has

served under succeeding consuls and is a well-informed man.

There is a Russo-British Chamber of Commerce here affiliated with the one in Petrograd, but it is of very little practical use, except perhaps in distributing catalogues. The fact that an applicant for an agency is a member is no guarantee in itself, as many people appear to join for this purpose.

With the opening of the Dardanelles, Odessa is looking for big developments, but she is being closely overhauled by Nikolaiev and Kherson, two neighbouring ports, and as the new line of railway from Europe through the Crimea and on to the Caucasus sidetracks Odessa and passes through the other two towns, they will probably gain at Odessa's expense.

As this book is written chiefly from the business standpoint, and is an impression of the writer's own personal experience and investigation, very little can be said about Warsaw, which was at the time of his visit in the hands of the enemy. Half Polish, half Jewish, its manufactures and business largely controlled by the latter, it is doubtful if it will for some time regain its former prosperity, though as the capital of an independent Poland it may do so under different auspices.

Rostov-on-Don is a thriving port on the Sea of Azov, in the centre of one of the richest agricultural districts in Russia, and contiguous to the large Donetz basin with its great iron-works and coal-fields. The principal street is a magnificent thoroughfare, well lined with good-class shops and a fine hotel, the "Morskaya." Some of the leading British manufacturers of agricultural machinery and implements have their own warehouses and representatives here. The Northern Caucasus to Vladikavkaz, and the rich country between the Don and the Volga are supplied from Rostov, and this district is

the one usually claimed by and granted to agents in Rostov.

Baku, with its 300,000 inhabitants, is much more than being merely the centre of the oil-fields. Swept by the winds of the Caspian Sea, permeated with the smell of petroleum, almost entirely devoid of vegetation, even in summer, it is not an attractive city in some respects. But here east and west meet—Mohammedan Mosque, Russian Church and Jewish Synagogue share the honours of architecture, while Tartar, Armenian, Persian, Georgian, and a score of other nationalities far outnumber the native Russian. Veiled Mohammedan women parade the streets, camels stand in the squares, Mecca pilgrims with beards stained red are met, the cabbies encourage and swear at their horses in an Asiatic tongue, and the old one-horse trams lumber along through the streets. At the docks and wharves the Volga steamers unload their cargoes, the fishermen deposit their sturgeon and caviare (for this is the chief dépôt for the latter), and vessels come and go across the Caspian Sea to Persia.

Baku is the highway to Persia and Central Asia, and derives considerable of its importance from this fact, although, of course, its chief source of wealth is the oil-fields and refineries, which form part of the town, and do not lie at some distance, as often supposed.

A small English club, to which both Americans and Russians are, however, eligible, is composed chiefly of Englishmen identified with the oil industry. Near by is the British Vice-Consulate, where Mr. McDonnell is always ready to talk of the development of the oil-fields and the opportunities for British trade.

The recent supply of water to Baku offers exceptional advantages for manufacturers of sanitary appliances, etc., while the proposed electrification of the tramways will open up possibilities in that direction. Baku is one of

the districts reached by very few of the agents in other parts of Russia, and the Southern Caucasus deserves and should command exceptional treatment.

Omsk, while scarcely coming under the category of large cities, deserves special mention as the most important city in Siberia. It has about one hundred thousand inhabitants, is four days' railway ride from Moscow, and lies a few hundred miles over the Asiatic border. It is in the heart of one of the richest agricultural districts of Siberia, and more particularly that part of the country devoted to the production of butter. The Ob and Irtish rivers afford communication with a large area, not otherwise covered, while its position on the line of the Trans-Siberian Railway connects it with all parts of the Empire. It is a typical Siberian town, lying about three miles from the station, the drive being across commons with no attempt at made roads, the tracks being either very dusty or very muddy in summer. One very short street contains the banks, post-office and the principal shops. There is nothing worthy of the name of an hotel in the place ; in fact, in this part instead of using the word "Gosteneetsa," the Russian equivalent of hotel, they call them "Nommeras" or numbers, the suggestion being that they only reckon to furnish "numbers" or rooms, and not to provide meals, which have to be obtained outside in the restaurants. However, there are very decided indications of substantial improvements. Some splendid educational establishments have been erected, including an agricultural college ; a new hotel will soon be built, and there is a general spirit of enterprise abroad that indicates a remarkable change and development after the war. A big business is done in agricultural machinery, and the International Harvester Co. have one of their principal branches here. The British Vice-Consul is Mr. S. K. Randrup, a Dane, who came here about twenty-five years

ago to develop the butter business, has since added the manufacture of ploughs and the sale of agricultural implements, and is now a millionaire. He gets an office allowance only from the British Government, and keeps a young man who speaks English to attend to the details of the Consulate, although he and, in fact, all his family speak English. He is quite English in his sympathies and outlook, and very keen on promoting British trade. When I found that the Consulate cost him about £200 a year more than he received, I inquired why he held the position, and found that it was on account of the prestige. As the British representative, he takes a prominent part in all public functions ; the Governor of the Province and himself are the only two allowed to have motor-cars, the rest being commandeered. While I was sitting in his office, he was called up on the phone by the Chief of Police, who expressed a desire to see him on some official business. "If the Chief of Police wishes to see the British Consul he can find him here between 3 and 5 this afternoon," was the reply. Then, with a smile, Mr. Randrup said to me, as he hung up the receiver, "That's what I pay £200 a year for."

As illustrating the prestige enjoyed by British Vice-Consuls and their consequent willingness to accept the posts for nominal fees, a little illustration may be given. When war broke out between Russia and Germany and before England had joined, a demonstration was made outside the office of a British Vice-Consul in a southern Russian port. The Consul gave a sympathetic, but guarded speech to the demonstrators, but was asked if England was going to join Russia. He expressed the personal opinion that it would. "Give it to us in writing," said his interlocutor, perfectly satisfied that with such a document from the Vice-Consul Great Britain would be irretrievably committed.

Mr. Randrup is very strongly of opinion that agencies given for Russia should not include Siberia, as there is a prejudice in favour of doing business direct, and not through Moscow. Omsk is undoubtedly a "coming" city, though it will have a strong rival in Novo-Nikolaievsk, about one hundred miles further east, and which is making progress only comparable with that of the western cities of the United States and Canada.

Kiev is the only rival to Moscow in historical associations, magnificent streets and splendid shops. It is the headquarters of the numerous sugar refineries of the adjoining provinces or governments, as they are called. From the appearance of the shops, apparently nothing can be too good or too high priced to be sold in Kiev, and those with articles of luxury should especially see that they are represented in this town. Kiev lies about half-way between Moscow and Odessa, and has a population at the present time of nearly a million.

Of Lodz and Riga little can be said other than what has already been said about Warsaw. Many of the factories of the former town, not under German control, have been moved further into the interior of Russia, and will probably remain there; those owned and managed by Germans will hardly start up again at any rate for some time after the war. Riga will naturally continue to be one of the principal ports of entry into Russia, and be freer from German influence than it has been in the past, but is dealt with more particularly in the chapter on Ports.

VII

THE SMALLER TOWNS

Their commercial importance—Kharkov—Ekaterinoslav—Tver—Tiflis—
The Turkestan towns—Archangel—Vologda—Tula—The Crimea towns.

IN the preceding chapter some little account has been given of the principal cities, not so much from the standpoint of population as from their importance as buying and distributing centres. It may now be interesting to give a brief description of some of the smaller towns, dealing with them rather from the business point of view than attempting to describe their cathedrals and points of personal interest, already covered by other writers.

It should be remembered that these towns have an importance and a buying capacity much in excess of similar-sized towns in this country. They are usually some hundreds of miles distant from other towns, and hence draw on the intervening population as well as their own. Most of them are, however, covered by the distributing agencies and wholesale dealers in the larger cities, and it is only in articles of very general consumption that any direct business connection is desirable. Nevertheless, the British manufacturer should see that he is represented in these towns, and that they are visited by his agent. A much better idea of Russia, its requirements and conditions, can often be obtained from these places than from the larger cities.

There cannot be the least doubt that the new Russia will have both sentimental and practical reasons for a

strong leaning towards closer commercial relations with Great Britain, and it is also certain that there will be a greatly increased demand for the goods we can supply. There is a huge leeway to make up, and in the first instance probably the simplest forms of labour-saving machines will be most needed, but as these increase production and wealth, more complicated machinery will be required. But the most rapid development may be expected in the towns and so-called villages, although many of them have populations ranging from 20,000 to 30,000 inhabitants. There are 1,230 municipal areas in Russia, and of these only 162 are lighted by electricity and 128 by gas, while the others depend on oil lamps. Only 219 municipalities have a proper system of water supply, and it is almost incredible that no more than 65 have a drainage system. It is also remarkable enough that only 54 have a service of tramways, 32 are equipped with telegraphs, and 314 with telephones. The villages, which we should call good-sized towns, are entirely devoid of these facilities, but we may be very sure that it will not be long before there is an urgent demand for such amenities. In this direction alone, therefore, we see the possibility of a huge demand for capital and appliances, and as the work will, to a great extent, be taken in hand by the municipal authorities, there will be practically no risk of loss.

Kharkov, sometimes spelt Charkoff, is a town of 300,000 inhabitants, 484 miles south of Moscow. It is a university town, and the administrative centre of the great iron industry and coal mines of South Russia. Important fairs are held there three times a year. Agents should be appointed here for businesses in touch with the iron works and collieries, and it is a good centre also for general merchandise.

Ekaterinoslav, further south and still within the mining district, has also nearly 300,000 inhabitants, of which

25 per cent. are Jews. The main street, Catherine Prospect, is nearly three miles long, and has some excellent shops. A great deal of mining and other machinery, as well as agricultural implements, are sold here.

Tver, 300 miles from Petrograd, on the road to Moscow, has nearly 100,000 inhabitants, most of whom are dependent upon the immense Morozov Cotton Mill and other local factories.

Tiflis, in the Lower Caucasus, is about the same size as Baku, but while much more interesting, has not the same commercial importance. It is a great market for Persian rugs, and its bazaars are redolent of the East in more respects than one. These occupy a distant part of the town where narrow streets, shops without windows, and every kind of Oriental dress prevail. The town proper has some excellent streets and fine shops as well as one or two good hotels. To go north from Tiflis, one has either to go back to Baku and by rail up the coast, or else coach over the Georgian military road of about 150 miles to Vladikavkaz. This is a delightful trip, of which much could be written were this a book of travel.

On the other side of the Caspian Sea from Baku is that part of Southern Asiatic Russia known as Turkestan, and bounding Persia and Afghanistan. The four principal towns, Bokhara, 80,000 ; Samarkand, 90,000 ; Kokand, 114,000 ; and Tashkend, 272,000, are all more Persian than Russian ; in fact, there are very few Russians here. The chief sights are the bazaars, which are thronged by Persians, Kirghizes, Hindoos, Armenians, Tartars, Afghans and Turcomans. Most of the business with Europe comes through Baku, though several direct inquiries are being received in this country, and direct business seems to be developing.

Archangel in normal times has little to recommend it. It is the great shipping port of Russian timber, and huge

sawmills line the banks of the Dvina on its way to the White Sea. Some imports for Siberia and Eastern Russia come through this port. The vessels get most of their supplies of ropes, etc., when in Norway or England, and so avoid the heavy customs duties. Ordinary trade is confined to the supply of its 100,000 inhabitants, but, as Archangel is over 500 miles from Petrograd or Moscow, there is considerable direct trading, and in most cases a local agent, if obtainable, is desirable.

Vologda is a typical Russian town of 40,000 inhabitants, noted for its manufacture of Russian lace, which is made by the peasants in their homes, and collected by one or two women who trade from their own houses, and one has, therefore, to make inquiries in order to discover where it is sold. It is an important railway junction. In towns of this kind it is impossible to find anyone speaking English, but there is the usual run of ordinary shops, and they should not be neglected.

The next town west is Viatka, 300 miles distant, with a population of 50,000. A branch line runs north to Kotlas, whence steamer trips may be taken to Archangel.

Perm, still another 300 miles west, has 70,000 people, and is the capital of the Government of the same name, and the beginning of the Ural mining district, of which Ekaterinburg (see separate chapter) is the centre.

Tula, 121 miles south of Moscow, has about 150,000 inhabitants, and is the Birmingham of Russia. The Tula wares, consisting of objects in brass, samovars, nickel-plate, iron and steel, are widely known. Black enamel inlaid with silver is a speciality, known as Tula work. This is a good centre for raw material used in these manufactures, but most of the business is done through the agents at Moscow.

Orel, a little more than 100 miles further south, with 100,000 population, and Kursk, 200 miles, also

with nearly 100,000, are ordinary Russian agricultural towns.

The Volga towns from Nijni-Novgorod, Kazan, Simbirsk, Samara, Saratov and Tsaritzin, full of historical interest as many of them are, leave little to be said from the business standpoint. They are better built towns than those in the north, have fine streets and handsome shops, and Saratov is an excellent centre for trade. At Tsaritzin, the Government has granted Vickers, Ltd., a concession for fifteen years for a gun works, which occupies a two-mile river frontage and a total area of 2,000 acres.

Yaroslavl, 174 miles north of Moscow, is an important manufacturing town, and one of the oldest in Russia. Its principal industries are a big cotton mill, founded in 1722, and tobacco and linen factories.

Nijni-Novgorod, in addition to its importance on account of its annual fair, is also a busy manufacturing place, and does a large trade in flour, iron, salt and petroleum. Lying at the junction of the Oka and Volga rivers, it is the head of the principal navigation of the latter river.

Orenburg, on the eastern border of European Russia, is noted for its rectangular and fortress-like trading factory, provided with four gates and surrounded on three sides by shops. In this hall are sold rugs and shawls from Bokhara and Turkestan; also the white and grey "Orenburg shawls," made of goats' wool, so finely knitted that the largest of them will pass through a ring, the best specimens costing as much as £6 the square yard.

The Crimea towns, Yalta, Sevastopol, Eupatoria, etc., are high-class seaside resorts, vieing with the Riviera in climate and conditions, and surpassing it with their extravagant luxury. It is a good market for the highest class commodities, much of the wholesale and distributing trade being done from Odessa.

VIII

THE QUESTION OF CREDIT AND LAW

Difficulties greatly exaggerated—Situation changed—Russians paying cash—Former methods—The abolition of vodka and its influence on credit—Improvement in agricultural situation—Cheques practically unknown—Methods of collection—New law safeguarding creditors—Business safe with ordinary precautions—Russian law.

THE question of credit and Russian law plays such an important part in the discussion of Russian commercial problems that it may perhaps be worth a chapter to itself. It has almost become a platitude to say that credit of from one to two years was necessary in order to do business with Russia, and that one of the chief, if not the main, causes of Germany's successful exploitation of the country arose from the fact. I devoted considerable time to the investigation of this subject, and discussed it with everyone I met in the course of business—the Commercial Attaché, the Consuls and Vice-Consuls, manufacturers, merchants and professional men. I came to the conclusion that the difficulties of credit had been very largely exaggerated, and that the changes that have taken place have entirely altered the conditions of credit that were prevalent before the war.

It has often been explained that Russia, being an agricultural country, was almost entirely dependent upon her crops for payment for her imports, and that such payments could not be made until the harvest was gathered in. This is true to some extent, and applies particularly to the purchase of agricultural machinery and supplies. But notwithstanding this, it is also a fact that the long

credits were not so much asked for by the Russians as proffered by the Germans as an inducement to purchase. In this they showed a Mephistophelean knowledge of the Russian character. As someone put it to me, "The Russian argues, 'If I do not have to pay for a year, I may not have to pay at all; anything may happen in that time, or I may be dead.' So he signs the bill, the year goes round, and he is faced with the realities of the situation."

But there are three factors that have completely changed the question of after-war credit. For three years the Russians have been accustomed to pay cash for everything they bought. It has already become a habit—cash not merely for imports, but the tradesmen have had to pay cash to the local manufacturers, the retailers to the wholesale dealers, and the consumers to the shopkeeper. Russian manufacturers told me that never again would they give such long credits as they had been accustomed to give, and that shopkeepers, relieved from the obligation of paying cash before they got the goods, would only be too pleased to get the shorter credits prevailing in other countries. This will react on the purchases made by manufacturers for supplies, and prompter payments will be the rule in every department of business.

In the second place, whatever efforts Germany may make to recapture the Russian market, and they will be very considerable, long credit will no longer be one of her principal inducements, for the very obvious reason that she will not be in a position to give it. Without attempting to go into the intricacies of banking and finance, the methods hitherto employed have been something like this: The manufacturer at, say, Stuttgart took his Russian bills to his local banker, who either discounted them, or advanced heavily on them, the latter in turn getting the money on the strength of the securities

from the Deutsche Bank at Berlin. The bills of this bank in turn found their way to the London money market, where they were discounted with British capital, and so the Russian credits granted by Germany were, after all, provided by the deposits of British manufacturers and merchants. Whatever improvements may be made in our banking system, it is safe to say that this state of affairs will not prevail in the future, if only from the fact that the bills of the German banks will not be worth discounting. This will probably be a stronger argument than the patriotic side of the question. The local German banker will not be able to discount the bills of the manufacturer, who will require all the capital he can command, and not be in a position to give the long credits he has hitherto done. With this formidable element of competition out of the way, it will be easier for us to do business on reasonable terms of credit, especially with the habit formed of paying cash.

But there is another factor that is far more important and has a much greater bearing than these two. The greatest event in recent Russian history has not been its participation in the war, has not even been the revolution. The abolition of vodka has exerted, and will exert a greater influence on the future of the Russian people than both the other events combined. It has profoundly affected them; it has made possible what has been achieved by Russian arms in spite of treachery and robbery incomparable; it paved the way for and made possible the greatest revolution the world has ever seen, even if subsequent events have nullified its advantages, and it will have an influence hardly conceivable on the solving of the great problems with which Russia is confronted, and in lifting her up to the highest pinnacles of political and commercial supremacy.

Vodka is a clear spirit, somewhat resembling gin in

appearance and taste, and is claimed to be the purest spirit made. It is very rich in alcohol. The Russian, and especially the Russian peasant, was not a regular or steady drinker, but on every holiday—and there were about fifty in the year, besides Sundays—and upon every other excusable occasion, he indulged in a great spree, spent all his money, and was incapacitated from work for a day or two more. The abolition of vodka has done away with all this, and in six months I did not see more than two or three men under the influence of liquor. The resulting savings have been enormous, the increase in deposits in savings-banks being very great. It has made an unprecedented demand for hats, boots and shoes, and other domestic comforts, hitherto unaffordable. The increased consumption of boots alone will probably be not less than ten millions of pairs annually. But this is only part of the story. The productive capacity of the people has been doubled. Farmers are restocking their farms, improving the land with fertilisers, and purchasing new machinery and implements. They are learning to pay cash, and have the wherewithal to do it. A Siberian manufacturer told me that formerly the farmer took his produce to market, intending to buy a horse *or* a cow out of the proceeds, after reserving enough to pay his debts. He met his cronies at the market-town, indulged in an orgie of vodka, and came back with insufficient to pay his debts. Now, he brings back a horse *and* a cow, has sufficient to pay his debts and to buy more agricultural implements. Moreover, he is in a fit state to get to work again at once. That is the story all over Russia, not merely on the farms, but also in the workshops and offices. It has a more important bearing on the future commercial development and prosperity of the country than can be imagined, and it has entirely transformed the whole question of long credits after the war.

But, it is often argued, the laws of Russia are such as to make easy fraudulent opportunities of evading payment. Whilst this has been true to a great extent, it has now been considerably modified. In any case, it only emphasises the importance of making thorough inquiries as to the reputation and honesty of the customer, as well as to his financial position. In some respects, the laws were more advantageous to the seller than in our own country, as a man who failed to meet a bill was made bankrupt with very little legal proceeding. In fact, as far as possible, all credits should be conditioned on a bill being given, the seller then being in a much more favourable position.

Cheques are practically unknown, and very little used in Russia. They must be cashed at the bank of payment within five days of their date, and are only payable to the person whose name appears thereon. If it is a company or institution, the receiver must show his authority before payment is made. Transactions are almost invariably in cash, and much of the delay in payment experienced by English manufacturers has simply been that the debtor has been waiting for the creditor or his agent to call for the money. I had some long overdue accounts to collect for a Manchester firm. On mentioning the matter to the local Russian agent and intimating my intention to call upon a large firm to collect their account, and asking him why he had not done so, he was inexpressibly shocked. "Why," said he, "that is a millionaire firm, and they are perfectly safe for any amount." He did not seem to understand my suggestion that the British manufacturer wanted the money, that it was not a question of lack of confidence. When I approached the firm they paid at once, with the remark that the agent could have had it at any time if he had asked for it. The agent should never be paid his commission until the accounts have been

collected, and should be instructed to see that they are promptly paid. If he is not entrusted with the collection himself, he should see that the amounts are deposited to the credit of the English firm through the Russian bank with which it does business. The London branch of the bank will then be duly notified, and the amount placed to credit at current rates of exchange.

A great part of the ten millions of annual business previously done by this country with Russia was on a basis of cash or short terms of credit. Responsible Russian houses can get the facilities from their own banks. In this connection, the following extract from a letter recently received from a firm in Moscow will prove of interest :

“ Provided British agents and merchants are able to procure from their bankers anything like the same facilities with which German merchants and agents were provided so liberally in the past by British bankers through Berlin, we do not anticipate the slightest difficulty in making adequate arrangements with bankers in Russia. As a general rule, so far as our firm is concerned, it is our intention to pay British manufacturers by means of London bank acceptances for all business passing through our hands in the ordinary way. Such acceptances would be at convenient usance, according to the conditions obtaining at the time. In cases where credit has to be given to buyers in this country, we have every reason to believe that all facilities necessary will be forthcoming from our bankers on the spot, but it is our strong conviction that it is in every way inadvisable for British makers to dispose of their goods in Russia on long credit terms. By doing so, they lock up a great deal of capital against a form of security which they have only the most inadequate means to control, and they, moreover, give encouragement to irregular business of the type that has made Russian business so notorious in the past. A

large number of entirely misleading statements on this subject have appeared in the British Press and Consular reports, emanating for the most part from persons of obviously indifferent commercial experience. While we are inclined to doubt very much whether these statements regarding long credits so strenuously advocated have in any way convinced London bankers of the advisability of countenancing so fallacious a policy, we consider it advisable to throw out a word of warning on the subject. First-class buyers in Russia experience no more difficulty in securing the financial aid their business deserves from their local banking institutions, and on perfectly reasonable terms, than do the buyers of any other country."

A new law for the better protection of creditors was, however, passed in July, 1916, of which the legal adviser to the British Embassy at Petrograd gives this résumé :

" The purpose of the new law is, by notarial and other procedure, as well as by compulsory publication and notification to the creditors concerned, so to regulate such transfers of business undertakings and property as to prevent fictitious proceedings of this kind for the purpose of evading liabilities.

" The new law requires that an agreement concerning the transfer of a commercial or industrial undertaking must be made before a notary, and must be fully registered in the notarial books. The agreement must be accompanied by a very detailed list, giving all debts and liabilities of the undertaking, with a most exact enumeration of the names of the creditors, their domicile, and the amount due. This list must be signed by the seller and the purchaser and attested by the notary, who, within three days' time, must publish a notice in the *Official Gazette*, stating the names and addresses of the seller and the purchaser, and the address of the undertaking. The same notice has to be given to certain authorities, and a

special notice in writing must be sent by the notary to each of the creditors.

"One of the most important features of the new law is that, as regards liabilities enumerated in the above-mentioned list, both the seller and the purchaser assume joint responsibility, and the creditor may claim from either. The liability of the purchaser for the debts of the undertaking remains in force for five years from the date when the debt became payable, or the date of the transfer, as the case may be. The transfer of an undertaking of one limited liability company to another is, by an important exception, not affected by the new law.

"The law also contains rules concerning the declaration of nullity of all fraudulent agreements. Any creditor who has obtained an order of the Court on his claim against a debtor, if he cannot obtain satisfaction from the debtor's assets, or if it is manifest that his assets do not cover the amount of the claim, is entitled to ask the Court for a declaration that an agreement entered into by his debtor with a third party is void, as being concluded with the intention of defrauding his creditors."

To sum up, a safe and profitable business can be done in Russia after the war on reasonably short terms of credit, if British manufacturers will exercise the same prudence and caution that they give to business at home and in other countries.

The extent to which of recent years the fictitious transfer of commercial enterprises and private property has been practised in Russia, often with the object of evading payment of lawful debts, has at length necessitated the passage of a special law, the main provisions of which are as follows :

The demand for consummation of the act of transfer must be established by a notary public, and the contract of transfer must be placed on record in its entirety.

On conclusion of a transaction of this kind the alienator must furnish the notary, under his own and the receiver's signature, with a list of all the creditors of the concern, while the notary on his part must, not later than three days after the completion or presentation of the contract, notify these creditors of the conclusion of the alienation contract with indication of amount of indebtedness to said creditors and a brief résumé of the act of transfer (name and residence of alienator and receiver, style and address of concern, contract price of same, and terms of payment). This list with the original is kept by the notary who has effected or witnessed the contract, and only a copy of the contract is given to the contracting parties.

Provisions regarding debts. In this connection debts of the concern are deemed to be all those entered in the books of the concern or shown in its reports, and all debentures formally signed by the owner or issued in the name of the commercial house under the signature of authorised parties. Irrespective of the foregoing, debts also include liabilities incurred in the acquisition, rental, equipment, operation, and upkeep of commercial and industrial establishments, the acquisition, manufacture, and conveyance of goods and materials, on account of salaries to employees and workmen, their remuneration and insurance, on account of commission contracts, arrears of rates and taxes, and generally all obligations emanating from the conduct of the enterprise in question. In case of doubt, any debt of the alienator is deemed a debt on account of the alienated concern till the contrary is proved by the interested person.

The fact of transfer must be advertised in local Government or provincial departments, in the *Commercial and Industrial Gazette*, and also announced on the local Stock Exchange and mercantile boards, with a view to notifying

creditors who may inadvertently have been omitted from the list. The law further provides for the establishment of joint liability of alienator and receiver, limited by five years' prescription, on account of engagements entered in the lists of debts of the alienated concern, with reference to which it shall be proved that the receiver knew of the existence on acquisition of the enterprise. In the event of non-observance of these rules or when under the guise of a contract of alienation of separate parts of the concern or in some other manner the transfer of the entire concern is concealed, and, lastly, when the concern is transferred to a wife or husband or certain categories of near relatives, joint liability for both receiver and alienator on account of all the latter's debts emanating from the said enterprise is established, while in such cases the curtailed five years' prescription is no longer applicable.

The operation of these rules does not extend to the transfer (1) of commercial and industrial enterprises of the Government, the Ministry of the Imperial Household and Appanages, the Department of Institutions of the Empress Marie, the Department of Public Worship, and Zemstvo, municipal and guild corporations, and the Cossack troops ; (2) commercial and industrial enterprises of joint-stock companies, share associations, and generally all companies operating on the basis of properly established and ratified articles of association ; (3) commercial enterprises for the retail sale of goods which, for the last year before alienation, have not maintained more than one adult hired clerk besides the proprietor or member of his family acting for him ; (4) industrial enterprises and trade (artisan) establishments with not more than four workmen engaged in both hand and machine work during the above-mentioned period ; and (5) banking institutions.

The law further contains special regulations which provide that, in the event of failure of attempt to recover debts

or when such attempt does not lead to the complete satisfaction of the creditor's demands, or in the event of suspension of payment by the debtor, the creditor may take action to nullify any transaction of the debtor whereby, in order to evade payment of debts, the debtor's property is transferred, burdened, or depreciated, in so far as such transactions tend to injure the creditor.

For actions detrimental to creditors, the law provides criminal responsibility in the form of imprisonment for all persons involved therein; similar responsibility is established also for infringement of the rules concerning transfer by contract on the part of commercial and industrial enterprises.

The present legal position of British traders in Russia has been admirably summed up by Mr. A. Krongleakoff, the well-known Russian advocate, in an article in the *Manchester Guardian*. How far existing laws will be altered by the new regime remains to be seen. A movement was, however, on foot to facilitate the formation of British enterprises in Russia, and particularly those identified with the development of its resources.

Mr. Krongleakoff points out that a new commercial treaty between England and Russia was concluded on December 31st, 1858 (January 12th, 1859), which has remained in force until now. By this treaty the two contracting Powers recognised and confirmed the right of their respective subjects to enjoy with their families the full liberty of coming, travelling, or abiding in every port whatever of the dominions of the other State; the right to hire or possess in the towns and ports dwelling-houses, shops and lands; to acquire, possess and alienate, bequeath and leave to the next of kin all kinds of property which foreigners are allowed to possess; to carry on commercial business, directly or through agents, and to pay only such rates and taxes as are levied on the native subjects of the

corresponding country. The full protection of the laws of the country was guaranteed to them, and they were given access to all administrative places and law courts to have their rights legally protected and enforced.

The legal position of the English, as well as of all other foreigners, before the revolution of March, 1917, can be summarised as follows: They could come freely to Russia, subject to their being granted passports from Russian embassies or consulates for that purpose, and reside in all parts of the country for as long as they desired. Foreigners of the Jewish faith could not come to Russia except by special permission, and when in Russia they had to reside within the pale of Jewish residence. Those foreign Jews who obtained a special licence to trade in Russia, as well as foreign bankers and heads of big commercial firms of the Jewish faith, were not subjected to this last restriction. Foreigners residing in Russia enjoyed the general protection of the Russian laws and were subject to all general rules and regulations. With regard to commerce and industry, foreigners were placed on an equality with natural-born Russian subjects, with the exception of certain branches of industry which were reserved for Russians only—such as the gold-mining industry in the Primorsky Province (extreme east of Siberia) and the adjacent islands and on the island of Saghalien, the navigation of the Caspian Sea, and the coasting-trade navigation on all other seas. The right of acquiring and possessing movable and immovable property, of holding estates on lease, of establishing factories and manufactories, etc., belonged to the foreigners on the same footing as to the Russians themselves, with some restrictions as to the owning of land outside towns and ports in the frontier districts of Poland and in the south-west of Russia. The acquisition of land and other immovable property in Turkestan is allowed

only to Russian subjects and to partnerships, corporations, and companies which do not contain any foreigners among their members.

It is hardly necessary to mention that foreigners may have their rights enforced by the law courts, in the same manner as Russian subjects. It is provided, however, by law that the defendant who has been summoned by a foreign plaintiff can ask for security for costs in case the latter should lose his claim, but such security cannot be demanded against a foreigner who is in the service of the Russian Government or is possessed of an immovable estate. Foreign limited companies, whether they have their offices in Russia or not, which restrict their business in Russia only to individual transactions with Russian subjects are also allowed to appear before the Russian courts as plaintiffs, if a convention to that effect has been concluded between Russia and the corresponding foreign country. A convention of this kind concerning British companies was made between the two countries on December 16-29, 1904. The fact that the legal existence of British companies is recognised by the Russian authorities and the law courts does not imply the right of such companies to carry on their business in Russia. The admission of foreign companies to trade in Russia is subject to certain conditions and regulations. Before 1888 all foreign companies had to obtain a special grant by the Tsar in order to be admitted to carry on their operations in Russia. The law of July 8th, 1888, introduced certain exceptions to this rule: Those foreign industrial companies whose activities in Russia were limited to the sale of their own products made abroad, as well as foreign shipping companies carrying on the transport of goods and passengers between foreign and Russian ports, were released from obtaining a licence from the Sovereign, provided their agents complied, in their business carried

on in Russia on behalf of their principals, with all general laws and regulations enacted for all foreign merchants' agents and representatives and also paid rates and taxes in accordance with the nature and dimensions of their activities.

By a further enactment issued in 1900 there have been determined "general conditions" on which foreign companies may be permitted to carry on their operations in Russia. Under these "conditions," which must be confirmed by the Government in every case, those foreign companies which desire to carry on their business in Russia have to appoint special responsible agents in Russia, whose actions legally bind the company, and with whom the Government as well as private persons can communicate on all affairs in which the company is concerned. The company must notify the Minister of Finance of the place where such agency has been instituted and also advertise in several official papers. Within two months after the yearly report has been approved by the general meeting of the shareholders of the company in England, the responsible agent must lodge with the Ministry of Finance and its local organs copies of the full statement of accounts and balance-sheet and fulfil all other formalities required by law for the purpose of levying trade and income tax in Russia. A characteristic feature of the conditions under which foreign companies are admitted to act in Russia is that all their property, movable and immovable, situate in Russia, as well as all payments due to them, are specially responsible for all liabilities incurred by them in the course of their operations in Russia, and all disputes arising out of or in relation to such operations are to be tried by Russian law courts.

Among different rights which belong to foreigners in Russia, as stated above, it is necessary to mention that of

holding shares in Russian companies. Even the whole of the share capital may belong to foreigners. But, curiously enough, the fact that foreigners may become shareholders of Russian companies caused certain legal disabilities to be imposed by the legislature upon the companies themselves. Russian company law rests on the basis of a special licence granted by the Government in each separate case. No company may obtain legal existence in Russia unless the founders have its statutes confirmed by the sovereign power, which was vested in the Tsar before the revolution and is now in the hands of the Provisional Government. It was a serious task to carry the statutes through under the old regime. All legal restrictions imposed on foreigners and Russian Jews used to find expression in the statutes, unless it was expressly provided that Russian subjects of Christian faith only were admitted to be shareholders in that particular company. Thus, the statutes of Russian companies usually contained a clause prohibiting the acquiring of immovable property in the districts where foreigners and Jews were forbidden to possess lands.

The revolution swept away this remnant of barbarity, together with all other restrictions based on religious or national distinctions. By the decree of March 10, 1917, the Provisional Government abolished all restrictions upon the companies with regard to the rights of foreigners and Jews, repealed the law of February 18, 1911, by which certain disabilities had been imposed on foreigners as to the acquiring by them of oil industries in the Caucasus, and generally equalised the status of the companies, without regard to the nationality or religion of the shareholders. By the same decree the Provisional Government simplified and shortened the procedure of getting the statutes confirmed, by giving the Minister of Commerce and Industry full power to confirm the statutes of the new companies

and to change the old ones without requesting the authorisation of the Provisional Government.

Whatever independent governments and new legislation may arise out of the present position will not materially affect the question of the conditions of credit or of commercial law any more than they will result in any diminution in the demand for goods.

IX

AGENTS

British firms in Russia—German agents for British goods—Previous experience of British manufactures—Best way of doing business—Personal investigation where possible—Own branches and factories—Combinations and syndicates—Established firms as agents—Young men as representatives—Agents in all principal centres—What is required of agents—Personal visits periodically.

THE question of Russian trade is by no means the new problem generally supposed. This is not an historical sketch, and hence it is unnecessary to refer to the beginnings in the time of Peter the Great and Catherine. Suffice it for our purpose to state that before the war we were sending ten millions annually to Russia, and while this is only one-sixth of what Germany exported, it is no inconsiderable sum, and presupposes both organisation and methods. Several British firms had their own establishments and agencies in Russia, and others more or less regularly covered the principal cities in search of orders. Particularly was this the case with the manufacturers of agricultural implements and textile machinery. A great deal of business was, moreover, done through Germany, more especially Hamburg, and the export of British goods into Russia was therefore considerably more than the returns show. In fact, I found in Russia British products, the manufacturers of which had no idea that their goods were in that country. In some cases the goods were sold on commission by German agents residing in Germany, and in others by purchasing outright, to be sold again at

a profit. So far as possible, these goods were imitated in Germany, and often consignments were made up, partly of British goods and partly of German substitutes, the Russian buyer, of course, supposing they were all British. Gradually the German goods were entirely substituted for the British, and the manufacturer lost his trade without acquiring any goodwill, and without knowing, in many cases, even the names of his customers. In other instances, German agents in Russia controlled the agency of a British firm, did a little business to inspire confidence and learn prices, get samples, etc., and then, securing the agency for a term of years, left the British manufacturer high and dry.

While the larger manufacturers, with their organisations on the spot, with men knowing the Russian language and versed in Russian methods, did very well, the small manufacturer often found his experiments in capturing the Russian market turn out very disastrously. In most cases it was, to a large extent, his own fault. Blinded with the glamour of a new foreign market, he did not take the most elementary elements of caution, and dealt with the matter in such a reckless manner that it would equally have spelt disaster if he had conducted his business at home on similar lines. A shrewd Russian of no financial position and less moral character, would come across a British advertisement in an English magazine or trade journal, and would apply for the agency, or for prices and samples, with a view to direct purchase. Possibly, he would write to the Board of Trade, who would pass on his name, as usual "without any responsibility." Samples and prices would be followed by a small sample order, either with the necessary cash, or with local references, the worth of which the manufacturer could not possibly estimate. A larger order followed with an intimation that the writer was much pleased with the samples and

could do a big business. In this case, the goods were to be paid for on delivery. After a few such transactions, by which the manufacturer's confidence was established, and he proudly referred to his "growing Russian export trade," an order would come for a very much larger amount with the suggestion that payment would be made by bills. This was often the last heard of the agent, and inquiries through the Consul, or personally made on the spot, revealed the fact that the bird had either flown, or that owing to the laxity of the Russian laws, he had made over his property to others, and nothing could be done. If he acted as agent on commission, it was much the same. Names given by the Board of Trade are almost invariably those who have applied for agencies, and are as valueless as personal applications, and should be as thoroughly investigated.

What, then, is the best way of doing business with Russia? And what are the best methods to be employed to establish a connection that should be both safe and profitable?

If the firm is large enough, if the prospect of doing business is sufficiently great, undoubtedly the best plan is to send out a personal representative to investigate the situation in the different parts of the country. It is essential that he should have some knowledge of the language, and it is equally important that he should be what the Russians call "sympathetic." The man of tact will make a success of it, the hustler a failure. He should, in the first instance, at any rate, cover the country pretty thoroughly. This tour of investigation will demonstrate the best methods to be employed by that particular firm. It may be thought desirable to establish its own branch in Russia; it may even be worth while setting up its own works. As Russian Customs duties are based on weight and not *ad valorem*, the heavy cast-iron base of an engine

or machine will usually pay many times more customs duty than the more intricate parts. The former can be cheaply made in Russia itself, and the fittings sent out and assembled there.

If the business does not appear to justify an establishment or a factory in Russia, recourse may be had to one of the various forms of agencies referred to later, or a representative may be sent out regularly once or twice a year, visiting customers, selling goods and collecting accounts. I strongly recommend the training of some bright young fellow for this purpose, who should at once begin the study of the Russian language, and make himself as familiar as possible with the geography of the country and its methods of doing business.

In many cases, however, the business will not justify so great an expenditure as is involved by this method, nor will the right man be immediately available. Three or four methods have been adopted to solve the difficulty. Combinations and associations of manufacturers in allied businesses have made the preliminary investigation through a selected committee of its own members, or through a representative acting on behalf of the combination. This plan has its advantages and its disadvantages. It brings to bear upon the problem a technical knowledge that is extremely useful. But unless it is accompanied by a knowledge of the language, the investigator is largely at the mercy of Englishmen in Russia, who may be biassed in their recommendations and suggestions, and very circumscribed in their knowledge. The chief disadvantage is, however, that the few larger firms in the combination usually reap the benefit at the expense of the others, and since its members usually compete with each other on at least some lines, the result is obvious. The same remarks apply to syndicates having joint agencies in different parts of the Russian Empire. I

asked the representative of one such organisation in a southern Russian town how he managed to look after the interests of the fifty or sixty firms included in the combine. He replied, "Oh, it originally consisted of three or four big firms that I formerly represented, and these have got fifty other smaller firms to join in the enterprise. I look after the original firms only, and when some inquiries come along for something they do not make, I pass it along to one of the others."

Another plan is to get some well-established firm in Russia to act as agent for the whole country, buying the goods direct in their own name, and paying for them themselves, reserving, of course, the control of the manufacturer's products for the country. If the firm is one of financial standing, this has the advantage of making the question of credit secure and avoiding the risk of bad debts. But there are few of such concerns as are able to do justice to the whole of the country, to the Caucasus and Siberia, the Ukraine and the Volga, as well as to other parts. A contract for "the whole of Russia" *ipso facto* included Siberia, and there is a growing prejudice in Siberia against buying through agents in European Russia. With the probability of the country being divided into separate autonomous governments, the need for different agents will be more acute. Furthermore, unless the manufacturer has a branded and proprietary article, he is entirely at the mercy of his agent, he does not know his customer, and on the termination of the agency he is in the same position as before. Such agencies should be given only for such parts of the country as it is demonstrated that the agent is working effectively, and should, if possible, be conditioned on some guarantee of sales. Where the firm has the agency for the whole of Russia, a direct representative of the firm and paid by it should be in the office of the agent, ready to supplement the efforts

of the agent's representatives by his superior technical knowledge, helping him to secure orders from customers, and gaining a valuable experience for his firm, which can be utilised in eventualities. This is one of the best plans where the volume of prospective business justifies it, provided always that the right agent has been obtained, and that he covers all the potential parts of the country for the particular enterprise.

An excellent plan for small manufacturers is one that I found adopted by a Walsall saddlery house. One of their promising young men had been selected and trained for the purpose and sent out to Moscow with a full line of samples. He started by making inquiries from the British Consul and other sources, and then visited the buyers in that town. Having made a fair start there, he gradually extended his field of operations to other towns in the neighbourhood and the Volga district, and was working up an excellent connection at a comparatively small cost to his employers. Perhaps I should again emphasize here the importance of character as against "smartness." A young man in Russia has many temptations, both social and commercial, and unless he adopts a prudent and well-regulated course of discipline, he is apt to disappoint both himself and those who have placed confidence in him.

Another method is to employ agents in all the principal centres where business is likely to be done. These may either be men who buy outright and pay for the goods, or those who sell on commission to customers. Probably both kinds of agents will be employed by the same firm in different districts. To the former, the same advantages and disadvantages apply as have already been referred to in the case of the sole agent. In order to prevent "nursing" the agency for the benefit of German and other competitors, the agreement should be for a

short period only, and subject to cancellation if a certain amount of business has not been done in that time. In the case of the commission agent, the same conditions should apply, coupled with the further proviso that the agent should be responsible for a percentage of any bad debts he incurs.

Whatever method be employed, all depends upon the choice of agent, and the fullest investigation should be made and the greatest care taken in the appointment. Much more is required than financial responsibility. Integrity and honour are far more important. The agent should also have a connection, or at any rate furnish some evidence of his ability to sell goods. It is difficult to get this information except on the spot. It is the one point where official and semi-official organisations fall short, and the Commercial Intelligence Department of the Board of Trade is practically worthless for giving information that is of any real value to the British manufacturer on this crucial point, the very foundation of a successful trade with Russia.

Not long after I had arrived in Petrograd a Russian came to see me with an introduction. His card indicated that he was the governing director of some company with a long and high-sounding name, with offices in different parts of the world. He claimed that they had connections and sub-agencies all over Russia, and were prepared to take up agencies for English manufacturers throughout the Russian Empire. I inquired which of the various and diversified manufactures represented they were most likely to be interested in. "All the lot" was his reply. "Groceries, engines, machinery, medicines, chemicals, textiles, we can handle them all. You need not go any further in Russia. You are a lucky man. You can return by the next train and tell all your people that you have found just the man for their business." It all

seemed too good to be true ; but in any case, I wanted to see more of Russia than Petrograd, so I told him I would consider the matter. A day or two afterwards I went to look up the offices and warehouse of the company, and found that the address given was a fourth-storey flat on the outskirts of the town where my visitor lived. Inquiries of the banks and from other sources revealed the fact that he was entirely irresponsible, and that there was no company or offices. I found afterwards that he had been to England on a visit, and had " told the tale " so well as to get some hundreds of pounds in advance from British manufacturers.

On another occasion I was invited to meet the directors of a syndicate for trading with the Allies. A photograph was shown me of a splendid building that, it was said, had been acquired in Moscow for exhibition purposes, at a cost of nearly a million roubles, and a document purporting to be a special charter granted to the company. The syndicate had apparently been promoted by a smart Jew in Petrograd, who had secured a prince, a general and a banker, all of whom I met, as his co-directors. There were millions at the back of the scheme, facilities and opportunities such as no other organisation in Russia possessed, and a picture presented to me almost worthy of the Arabian Nights. But investigation again disclosed the fact that it was all what our American cousins would call " hot air," and pertinent questions as to confirmatory evidence were met with an aggrieved air that I should for one minute doubt the *bona fides* of such an institution. I am almost inclined to believe that in Russia the more high-sounding the title the more caution should be exercised before making commitments.

The war has found many of the principal Russian agents who dealt entirely in German and Austrian goods with their occupation gone. These are generally the

firms who are now clamouring for British agencies. In many cases they will be very desirable acquisitions, being thoroughly familiar with the requirements of their districts and having an established connection. In others, the intention, doubtless, is to nurse the agency until such time as they can renew their former connection with the enemy empires, when the experience they have gained in the meantime will be of additional value to our German competitors. Extreme caution should be exercised in such cases, and conditions imposed that will prevent the agency being held simply with a view of keeping British goods out of the market by not attempting to sell them at all, or on a small scale to keep the agency open, or of supplying the immediate wants of their customers until such time as the Germans can do so.

In conclusion, let me recommend that every British firm doing a sufficient volume of business in Russia should once in a while visit the agents and customers by a principal or responsible member. In this case it does not so much matter if he does not speak Russian, though even a little knowledge of the language would come in very useful. He would not only see how far the firm was being fully represented by his agents, collect outstanding accounts, and correct misunderstandings ; but the personal touch with his customers would be of a value which is inconceivable to those who do not know how much the personal equation enters into Russian business life.

X

GOVERNMENT AND OFFICIAL BUYERS

Approaching the government departments—Personal representation necessary—List of departments—The *Zemstvos* : their duties and privileges—Control by the Government—The Co-operative movement—Over forty thousand organizations—The Moscow union—The Urals—Finland—The Municipalities.

AMONG the best opportunities for trade in Russia are those for contracts with the Government, the *Zemstvos* or County Councils, the Municipalities, the Co-operative societies and the village credit associations. These, however, all require personal representation on the spot, and letters and catalogues are of no use whatever.

In the case of the Government a stamp duty, chargeable at the rate and in the form of two 75 kopeck Russian revenue stamps, is necessary for every written communication sent to Government offices by unofficial individuals or bodies and requiring a reply. These stamps can only be procured in Russia and are not kept by the Russian Consuls in foreign countries. No serious attention would be given to any letters addressed by British firms to Russian Government departments without these stamps, and even then the communications would have to be in Russian. The exigencies of war and the needs of the Russian Government have somewhat modified these regulations temporarily, but in normal times they are strictly enforced. In the case of the Patent Office, communication direct with applicants outside Russia is

entirely forbidden; and it cannot be approached except through accredited agents in Petrograd.

Even if the stamps were affixed to the correspondence, quotation, or offer, the chances would be against any serious consideration or reply, unless the application were followed up by other steps, in Russia, to introduce and recommend the firm and to withstand the opposition of competitors. It is, in fact, necessary that firms desirous of doing business with Russian Government departments should have a competent representative on the spot. The exercise of personal influence is frequently required in acquiring necessary information, in presenting tenders, and in ensuring their proper examination. And this generally entails much explanation, translation of technical conditions, etc., which can be more readily attended to in Russia than in this country.

Under the old regime it was, without doubt, in many cases, necessary to lavishly distribute largesse in order to secure contracts, but this was by no means so in every case. I speak from experience of the Department of Ways and Communications, from whom I received orders during the war, without the slightest suggestion of bribery. Under the new administration, conditions in this respect should be materially improved, but the outstanding fact is that Government orders require a representative on the spot. Moreover, Russian methods are exceedingly slow, and one of the jokes told at the British Embassy is of a British manufacturer coming to Petrograd to complete a contract, the details of which had all been arranged, and who said that he was only staying a few days, and had made his arrangements accordingly. The officials, knowing the Russian dilatoriness in such matters, advised him to secure accommodation for two or three months, and it was fully that time before he was able to return with the contract in his pocket.

The following list of departments with their addresses in Petrograd (for they are spread all over the city) may be of use :

The Chief of the Artillery,
Liteiny Prospect 3, Petrograd.

His High Excellency, the Minister of Agriculture,
Sergievskaya 36, Petrograd.

The Admiralty Shipbuilding Works,
Fontanka 203, Petrograd.

The Ministry of Ways and Communications,
Dept. of Constructions of Railways,
Fontanka 117, Petrograd.

Electrical Department of the Ministry of Trade
and Industry,
Zabalkansky 19, Petrograd.

The Ministry of Trade and Industry,
Petrograd.

His High Excellency the Marine Minister,
Admiralteistvo, Petrograd.

Mining Dept. of the Ministry of Trade and Industry,
Universitetskaia Naberejnaia 1, Petrograd.

The Ministry of Finance, Railways Department,
Konnogvardersky Boulevard 19, Petrograd.

The Zemstvos represent the late Russian Government's concession to popular demand for local self-government. To the Zemstvos is entrusted the care of local needs and interests of the given government or district, as : public health, education, charity, improvement and maintenance of local ways of communication, organisation of the local Zemstvo post service, measures against fire accidents, communal Zemstvo insurance of property, assistance and

development of local agriculture, commerce and industry. Besides this, the Zemstvo has to do certain work in the interests of the central administration ; for instance, the distribution and regulation of Government taxes among communities, housing of the district police, recruiting expenses, etc.

Zemstvo affairs concerning a whole government are looked after by the government Zemstvo ; concerning only a district, by the district Zemstvo. But certain affairs, whether concerning the whole government or only a district, are looked after by the government Zemstvos, as, for instance, the issuing of obligatory dispositions, the conclusion of loans, fairs, bazaars and wharfs, etc. The Zemstvos of both categories have the right to send their petitions concerning local interests and needs directly to the Governor, who writes his conclusions upon it and then forwards it to the respective minister. In case the latter finds difficulties in complying with the request of the Zemstvo, he enters the question to the Council of Ministers.

The government Zemstvo is entitled to issue local obligatory dispositions regarding sanitary measures, anti-fire regulations, the construction and maintenance of public roads, etc., at their own initiative or at the initiative of the Governor or the district Zemstvo. But these dispositions must be confirmed by the Governor, as representative of the central administration, and he publishes them in the same way as his own dispositions.

Besides this, the Zemstvo is entitled to issue " administrative " dispositions, regarding the introduction of taxes to cover their expenses, the changing of the direction of public roads, etc., which must also be confirmed by the Governor, and in some cases, by the minister. The Governor and minister have the right of " veto," i.e. to cancel every disposition of the Zemstvo if they find it not in

accordance with (1) the law, (2) the interests of the Empire, (3) the local interests. This veto can be protested against by the Zemstvo, and the contest is finally settled in some cases by the minister, in others by the Senate. The Zemstvos feel very severely and keenly this right of "veto," especially when a measure they know to be necessary or useful, of which they are the only competent judges, being on the spot and knowing well the needs and interests of their community, is protested against by the central administration on account of the proposed measure "not being in the local interests," inasmuch as they have no means of persuading the protester of their knowing better the local needs, which are their own needs, than the protester.

The Government acts also as controller of the work of the Zemstvo Boards, and has the right of revision of all that they are doing and of "veto" concerning their activity.

The dependence of the Boards of the Zemstvo upon the Crown Administration is, in fact, even greater than the dependence of the Zemstvo Assemblies, on account of the appointment of their staff depending on the confirmation of the Governor, who will not allow any person to be appointed whom he does not like for one reason or another. The usual pretext, always ready to hand and allowing of no investigation, is the "political unfaithfulness" of the proposed candidate, i.e. the opinion that he may be democrat, revolutionary, hidden or open, years ago, perhaps, or may have communicated with some persons of such reputation.

Thus, in all its functions—in the issuing of dispositions, in their execution, in the appointing of their leaders and the staff of their executive body—the Zemstvo acts under the control, or, more accurately, under the tutoryship of the crown administration.

The Zemstvos receive their revenues by introducing taxes, and have a right to take taxes from the following sources : taxes on land and real estate, houses, commerce and industry, plants and works, a certain percentage from the income of the local law courts, etc.

The powers of the Zemstvos were, however, from time to time considerably curtailed. During the war they contributed largely in helping the medical and sanitary arrangements and towards remedying the various evils and difficulties arising from mismanagement and inadequate facilities at headquarters, and on this account came into conflict with the Government and materially assisted in the Revolution.

Nearly every town and government has its Zemstvo. Russia is divided into "governments" corresponding to our counties, though, of course, considerably larger, many of them being as large as Great Britain. The Zemstvos supply the farmers and landed proprietors with practically all their requirements, and assist in the disposal of their products. As an illustration, their purchases of agricultural machinery alone in 1911 amounted to a million and a quarter pounds sterling. They have stores, carry stocks, pay for goods in cash and retail them on credit to the farmers. They offer complete guarantees and absolute security, though, from the nature of their business, in some lines considerable credit has been given in the past.

The Co-operative movement in Russia has made tremendous strides since first started in 1865, and under a Democratic Government may be expected to increase even more rapidly.

One of the most startling advances which has been recorded in the last few years is in the matter of the credit arrangements of these various Co-operative unions. It was decided to establish a central bank for the pur-

pose of uniting the whole system of Co-operative institutions with the general finance market, which should be able to find free capital and also distribute the excess of capital which is accumulated in Co-operative institutions. This proposal was put forward at the first Congress of Co-operative Unions in Russia, which took place in Moscow in 1908. Here it was proposed to establish a bank analogous to the French and Italian people's bank or to the German institutions of this kind, upon which foundation a central bank of Russian Co-operation might be developed.

It is noteworthy in this connection that steps have already been taken to establish a central bank for the Russian co-operative societies in the Moscow Narodny Bank, and it only remains for most of the co-operative societies and unions to join up with this organisation for Russia to achieve the final working out of this system.

In the first year and a half of its existence the bank had 1,000,000 roubles of stock capital, distributed in 4000 shares of 250 roubles each. To-day the capital is 2,000,000 fully paid shares and a further increase of capital of 2,000,000 roubles has been sanctioned. The turnover at the bank was :

	Roubles
In 1912	22,735,535
In 1913	56,066,168
In 1914	110,221,080
In 1915	243,234,649
In 1916 up to May 1st	200,012,371

2725 co-operative societies and other organisations participated in taking up this capital, accounting for 7227 shares, while there were 171 private persons with 673 shares. It should be mentioned here that the constitution of the bank is such that it is impossible for any one financial group to acquire a dominating influence in the

control and direction of its activities, since the voting power is independent of the number of shares held.

It was feared at the beginning that the financial strength of co-operation might be insufficient, and it was decided to invite private capital in addition to the participation of co-operative institutions. As a matter of fact, this has proved unnecessary, and from the third issue of shares it was proposed that these should be circulated only among co-operative institutions. The number of shareholders and clients has grown, and the turnover has been augmented in an extraordinary manner, increasing the confidence placed in the bank. This confidence has been further strengthened by the opening of credit by the Imperial Bank, and by the union of the Department of Agriculture, the All-Russian Union of Towns, and the bank for the purchase of goods from abroad.

Although European Russia has a great number of co-operative organisations, Siberia possesses the strongest unions in regard to finance and number of members. At the present time forming almost a quarter of Asia, with an area one-and-a-half times that of the whole of Europe, and two-and-a-half times the size of European Russia, Siberia is represented chiefly by the peasant class. During the two years of the war many new co-operative societies have been organised, and particularly consumers' societies, in many cases the number having doubled. According to the figures of the Novo-Nikolaevsk branch of the State Bank for 1915, the total number of credit and saving societies in this district was increased by 6·14 per cent., and the membership by 6·8 per cent., with an average membership in each society of 738. It is an interesting fact that the increase of members was greatest during the spring of 1916, when the need of money was very acute, and at that time the sum of money credited to members was increased to 1,000,000 roubles compared

with the winter grants. Deposits increased from 1,000,000 to over 3,000,000 roubles, which has considerably increased the activity and power of the societies. Another field of the co-operative societies lies in the provision of grain warehouses and elevators. According to the figures 26 societies have their own warehouses—41 in number, and one elevator with a total capacity of 850,000 poods. Societies engaged in the selling of agricultural machinery have bought over 3,000,000 roubles worth, and they are therefore a branch of the commercial societies which needs very carefully to be considered.

In regard to the number of co-operative societies Russia comes next to Germany. At the present time Russia has 40,000 co-operative organisations—the number having increased considerably during the past few years. For instance, in 1913 alone 4000 co-operative societies were formed. Of the total number 3930 are credit societies, 3400 small savings banks, 10,900 co-operative stores, 1227 agricultural societies, 2000 butter-producing societies, and about 500 various producers' societies. The only societies of which the financial economic position can be made out exactly are the credit co-operative societies. The turnover on June 1st, 1915, equalled 80,000,000 roubles, 50,000,000 of which was subscribed by members, the balance being composed of various deposits from outside sources. This increase shows that co-operative credit in Russia already exerts an enormous influence on Russian economic life, and successfully replaces the usual banking credit. The development of other branches of the co-operative movement towards central organisation has united several smaller and individual societies.

The Union of Siberian Butter-producing Artels is already well known in England. This union has 800,000 members and a capital of 15,000,000 roubles, and controls the production of butter and dairy products in Siberia,

and also its export to European countries. This union had branches in London, Berlin and Hamburg, and possesses its own warehouses, docks and refrigerators.

With regard to the latest tendencies of the co-operative movement the individual co-operative societies, stimulated by their increasing activity, have begun to organise themselves into local unions, of which the Moscow Union of Co-operative Stores is one of the largest. It connects 1500 co-operative societies, and has a turnover of 10,000,000 roubles. Correlated with this development of local unions is the extension of their sphere of activity, and they now embrace such diverse subjects as the production of potato flour in their own mills, the drying of vegetables and corn, the creation of centres for hiring out agricultural machinery to peasants, and the co-operative insurance of cattle and property, etc. A great change in the economic life in Russia, connected with the war, has given a new stimulus to the movement, because the small producer has found out that only by co-operation can he free himself from the exploitation of middlemen and speculators, and at the same time he has realised only through co-operation can he keep the prices of various products at a low level, and thus organise a sound basis for future prosperity.

In the Urals the local conditions have caused the movement to develop in two directions—firstly, in the establishing of credit organisations ; secondly, in the organisation of agricultural societies. Here co-operative stores and consumers' societies are not very numerous, and they do not play a very important rôle in the economic life, and are important only in so far as they regulate prices of products. In the organisation of credit and union societies great assistance has been given by the local government bodies and the Zemstvos. These bodies—established with the object of building up the prosperity of the popula-

tion—have discovered that both forms of the movement contribute to the economic stability of the small peasant households, in consequence of which they assist in the organisation of financial and other help.

In the Urals there were already in existence small Zemstvo banks which gave credit to peasants; the Zemstvos kept also specialists and experts to give advice on the machinery and assistance to farmers; warehouses to be rented out, and agricultural machinery which could be purchased by peasants on easy terms of payment. It was, however, by means of the co-operative organisation that the Zemstvos could most satisfactorily perform their work. The Zemstvos were often situated some distance from the small villages, and they required small centres intimately acquainted with the local bodies, with the same interests, and united by the same purpose. The co-operative societies were able to supply this need. In the Urals the active part of this work was taken by the Union of Small Credit Societies, which was organised in 1907.

At first this union only possessed 16 societies among its members and occupied an intermediate position between the Zemstvos, private firms and co-operative societies in the capacity of middlemen and agents. With its growth, however, this union began to give credit to various subsidiary societies, and in addition to the operations in this sphere, it also commenced to carry on an extensive educational campaign with a view to introducing improvements among the societies themselves, and to enlighten the peasants generally.

At the end of 1915 this progressive union had already acquired its own building, with a large printing establishment, published a journal, devoted entirely to the problems of the co-operative movement, and other propaganda work in the Urals. At the beginning of the year

1916 it numbered among its members 91,800 peasants, while it extended credit to them to the amount of 98,200,000 roubles.

Another indication of the progressiveness of this union and of the energy which inspires its activities is shown by the action it has taken in storing the peasants' machinery during the winter. The disinclination of the peasants to place their machinery in storehouses out of the season was found to be due to their fear of destruction by fire. This union, however, took steps to establish a means of co-operative insurance. In addition to this, they supplied special engineers to instruct the peasants in the dissembling of their machinery, so that in this way the life of the machine is trebled or even quadrupled, and the peasants themselves acquire the technical knowledge for handling machinery. Many peasant—*kustarny*—industries have also developed at an abnormal rate owing to war requirements, and at the same time have changed their character, and also in this direction co-operation has not been slow to establish schools of instruction to enable the peasants to make their supplies according to the sample supplied by the Government, by reorganisation of the workshops. The union has a large library, and a cinema theatre for demonstration purposes in agricultural and other matters interesting to co-operators. The union bases its activities upon the dictum of Spencer—“Co-operation succeeds only in proportion to the mental and moral qualities of those who carry out its ideas.” The study of the co-operative method in Western Europe, and particularly in England, which is the cradle of co-operation, shows that co-operation is a very great factor in creating civilised conditions in those countries, and hence it is important that Russia's co-operative movement should be connected with English capital, as this is the direction in which Russia has consistently suffered.

Through the co-operative societies English merchants will have an enormous market for purchasing raw materials and for the sale of manufactured goods, and by the same means English merchants will be able to penetrate right to the Russian buyer, and will enjoy all the advantages of dealing without middlemen.

The support of co-operative societies will be a great asset to English capitalists, and will afford a sound basis for smooth working in future. The financial situation is the key to the problem, and centralised financial control is the necessary condition for the success of the movement, just as decentralisation of detail will enable the movement to be adapted to local conditions most successfully.

In Finland, particular attention is paid to the educational side of the movement, and the number of students in normal times reaches the large figure of 1000 ; the syllabus is very comprehensive and includes the theory of co-operation, together with a full discussion of the problems of co-operative credit. In this way it is hoped to stimulate the peasants to a fuller development of their agricultural resources, by introducing to them the most up-to-date technique in the various branches of their activity.

The municipalities are governed much as our own, the municipal body and the town-hall being alike known as the Duma. (By the way, Duma means "thought," and of course, the body we know by that name is the National, as distinct from the town Duma.) These latter were, however, in common with all other organisations, under strict surveillance of the Government, the presidents or mayors having to be confirmed by the Tsar in the case of Moscow and Petrograd, and by the Minister of Home Affairs or the Governor in the case of smaller towns. This has been changed and a much greater measure of self-government granted. Water supply and lighting, tramways, tele-

phones and other municipal enterprises come within the jurisdiction of the town dumas, and with the national development of the cities afford opportunities for a rich harvest of trade.

The development of local self-government will add to the possibilities of trade with the various governments, while the republican movement will give fresh impetus to the growth and influence of the Zemstvos and co-operative societies.

XI

THE PORTS AND SHIPPING

Lack of access to the sea—Mercantile fleet—Shipping statutes—Archangel—Alexandrovsk—Vladivostok—The Baltic ports—The Black Sea ports—The Sea of Azov—The Caspian Sea.

IN a coastline coinciding with practically the whole of Northern Europe, all Northern and nearly two-thirds of Eastern Asia, and which reaches to North America at the Behring Straits, Russia has only two ports worth mentioning, Archangel and Vladivostok. The value of the former is discounted by the fact that for a considerable portion of the year it is closed on account of ice, and further by its distance from the centres of population. It is about 700 miles from Moscow and 750 miles from Petrograd. Vladivostok, the only open port possessed by Russia on the ocean, is thousands of miles away on the further side of Asia, and goods arriving at that port have to meet heavy railway charges before they can find a market. Both Vladivostok and Archangel have come into prominence during the war on account of the closing of the Baltic and the Black Seas, but Russia will require tremendous development before either port takes its stand among the huge trading ports of the world.

In normal times the shipping interests of Russia are largely confined to the ports of the Black and Baltic Seas, the one necessitating a passage through the Dardanelles, and the other through the relatively narrow channels dividing Sweden, Germany and Denmark. The Baltic

ports, moreover, are frozen in the winter. There are also the ports of the Caspian Sea, but as these have no outlet to the ocean, they have no significance to imports and exports and are only of local importance.

The Russian mercantile fleet consists of 3700 vessels with a total of 783,000 net registered tons. Of these 1044 are steam vessels with a tonnage of 513,000 and 2597 sailing vessels of 257,000 tons. The Black Sea (including the Sea of Azov, with which it is connected) has 416 steam and 887 sailing vessels, with registered tonnages of 240,817 and 49,681 respectively, or nearly 40 per cent. of the whole. The Baltic Sea comes next with 265 steamers and 719 sailing ships, the tonnage being 128,298 and 71,532. The Caspian Sea has 244 steamers and 570 sailing vessels, a large number of which are engaged in the oil-carrying trade.

Our losing prestige in the Russian market is reflected in the shipping statistics. We have not only lost our position in the rank of nations exporting to Russia, but our shipping interests have likewise suffered through our lack of enterprise. In 1888 55 per cent. of the shipping entering Russian ports carried the British flag; before the war it was 35 per cent. We have held our own fairly well in the Black Sea, but in the White Sea and Arctic ports, where less than twenty years ago British shipping was four times greater than in Germany, it is now even less. Our tonnage to the Baltic ports was twice as much as that of Germany; it is now 20 per cent. less. Only about 10 per cent. of the total foreign trade is carried in Russian ships.

The White Sea has 80 steamers with 13,644 tonnage and 415 sailing ships with 23,043 tonnage, mostly small craft. The Pacific Ocean has only 45 ships in all, of which 39 are steamers and the other six small sailing craft. Three hundred and eighty-eight of the largest ships were

built in the United Kingdom, 114 in Germany and 135 in Sweden. The machinery in Russian steamboats is largely of foreign manufacture.

Immediately before the war strong efforts were being made for the encouragement of the Russian Mercantile Marine, the law for the duty-free importation of ocean steamers being extended to 1928, and bounties to the amount of nearly half a million sterling being advocated in the estimates of 1914.

Archangel was discovered by the English navigator, Sir Richard Chancellor, who was summoned to Moscow by Ivan the Terrible, and given important trading privileges for his countrymen. It flourished until Peter the Great built Petrograd, and suppressed the trade of Archangel in its favour. Its normal population is now about 40,000, and its principal business has been the export of timber, tar, pitch, fish and flax, as well as grain from Siberia. It is ice-bound from the beginning of October until the end of April.

There are numerous and large sawmills on the Northern Dvina nearly the whole of the twenty-eight miles between Archangel and the White Sea, and much of the imports are those required by the timber industries. Ships' tackle and supplies are chiefly bought when the vessels are in Norway or England, and the heavy Customs duties thus avoided. Other ports on the White Sea are Kem, where a British Vice-Consulate has just been established, and Mezen to the north-east, from which inquiries are being made for agriculturist machinery.

The greatest development in Northern Russia is, of course, the new port of Alexandrovsk, in the ice-free Ekaterina Harbour. Though much further north than Archangel, it has the advantage of the gulf stream. The railway from this port to Petrograd has now been opened and, if expectations are realised, it will

become one of the most important ports in the Russian Empire.

Vladivostok (Mistress of the East) is a town of 120,000 inhabitants, including many Chinese, Japanese and Koreans. In normal times it has much more significance as a naval and military station than as a commercial port. Imports from China and Japan come by this route, and it is the distributing centre of Eastern Siberia. To the north of Vladivostok on the River Amur is the new port of Nikolaevsk, to which the Russian Government has recently allocated a sum of R.1,000,000 (£100,000) as the first instalment towards the cost of constructing a first-class seaport, and during the whole of last winter pile-driving was being done through the ice. Since the navigation opened this spring, work is going on day and night, piles are being driven, quays being made, warehouses being built, and one excavator dredge is deepening the river-bed alongside the quays so as to enable ocean-going steamers to discharge direct on the town quays, while another larger one will shortly commence work on the bar of the river. This is a matter of great importance, as the one drawback to the port of Nikolaevsk has been the low depth of water on the bar, causing large steamers to lighten their cargoes outside at much delay and very considerable expense. The deepening of this channel will undoubtedly tend to make Nikolaevsk one of the principal ports of the East.

It lies thirty miles up the Amur river, and is considered by seafaring men to be one of the finest natural harbours in the world. The writer has recently had inquiries from this port for small steamers.

The ports of the Baltic Sea are Riga, Libau, Revel, Cronstadt and Petrograd. At Petrograd there are two harbours, the coal harbour accommodating ten steamers, and the timber harbour seventy-five to a hundred steamers.

Almost every kind of merchandise is imported and all the natural produce of Russia with the exception of cereals exported. Petrograd is, however, not a port in the same sense as London or Newcastle. Cronstadt, on the Finland Gulf, about thirty miles from Petrograd, is a naval dépôt with graving docks which, although controlled by the Government, are open to the use of others.

Riga, which is Russia's most important port, is 350 miles from the capital. It was founded by German merchants in 1158, and soon rose to commercial importance. The town, which was built by Bishop Albert, stands on both banks of the Dvina, five miles from the gulf. It was colonised by German settlers, but in 1582, when Livonia was ceded to Poland, Riga, its capital, also became Polish. During the wars between Poland and Sweden it was captured by the latter in 1621, and remained Swedish until in the conflict between Sweden and Russia it fell into the hands of the Russians in 1710. Eleven years later Riga and Livonia were incorporated in the Russian Empire.

The city—the fifth largest town in Russia—has a population of about 600,000, half of whom before the war were Germans, and the rest Russians and Letts. The old town, which is on the right bank of the river, still retains its mediaeval appearance, but the new quarter has many fine modern buildings. The city is the seat of an Orthodox and a Roman Catholic Bishop. It has a large trade in time of peace, chiefly in imports of salt fish, raw cotton, machinery, oil, coal, wine and fruits, and in exports of timber, eggs, butter, flax, hemp, linseed, hides, skins, cereals, and other agricultural produce. In 1912 the value of the exports was 210,847,000 roubles, and that of the imports 104,214,000 roubles. In its commerce German influence predominated. Riga has an important naval dockyard, where in 1914 nine 1200 ton destroyers were

under construction. In winter the port is ice-bound, and the fact that the mouth of the Gulf of Riga is almost entirely closed in by the island of Oesel leads to its waters freezing sooner and opening for navigation later than would otherwise be the case.

Revel, a town of about 150,000 inhabitants, promises to be one of the most important ports on the Baltic. Its annual importation of cotton exceeds 100,000,000 lbs., and it does a good business in hides and bristles. A new harbour is being built at a cost of over £100,000, and this will afford quay space for a larger number of vessels, as well as modern facilities for shipping.

Libau, a town of 100,000 inhabitants, has a natural harbour open all the year round, and from a fishing village has grown to a port of some pretensions. It is, however, on the extreme west coast and is lacking in railway facilities. Its chief imports are coal and herrings, and its exports timber, grain and eggs.

The Black Sea is, however, the centre of Russia's principal shipping industry. Here are exported the grain from Siberia and the southern provinces, the sugar from the governments around Kiev, the kerosene from the Caucasus. Agricultural and general machinery, coal, iron, raw cotton, tea, coffee and general merchandise are largely imported.

The total of shipping of all nationalities that entered in the foreign trade of the port of Odessa in 1913 was 933 vessels, with an aggregate tonnage of 1,940,900 tons. Of that aggregate British vessels accounted for 745,400 tons.

Odessa is the most progressive of all Russian cities in some respects. It is socially cosmopolitan, and though it owes its evolution to a Frenchman—the Duc de Richelieu, who was a royalist exile during the Napoleonic period—it has the aspect and the vigour of an American city. Its population, which includes numerous Jews, with more

than a sprinkling of Greeks, Roumanians and Tartars, is energetic, with a greater aptitude for business than the Russians of the north. The English colony in normal times numbers over one thousand, and English firms engaged in the grain and shipping trade have branches there.

The chief industrial interests of Odessa are based on the grain, sugar, tobacco and other products of the area it serves as entrepôt ; the iron industry of Russia, moreover, has its principal centre in the district. Other local activities include breweries, distilleries, mills, brick-yards, agricultural machine shops, engineering, tramway and other carriage-building factories, soap, paint, varnish and chemical factories and tinned-plate works.

The official reports available do not give the value of Odessa's principal exports, but quantities in 1913 included the following :

	Long tons		Long tons
Coal	196,300	Jute	9,600
Fresh fruit (oranges and lemons)	40,500	Tanning materials	6,100
Copra	18,200	Cork	4,800
Nuts of all kinds	15,100	Iron (fashioned)	4,700
Raw Cotton	12,500	Tea	4,600
		Resin and Colophony	3,100

The international opening of the Dardanelles after the war will give a tremendous stimulus to Odessa's trade as well as to that of its neighbouring ports, and coming rivals Nikolaiev and Kherson. Important harbour and dock construction are already under way at both these ports, and as they are both on the line of the proposed new railway from the west through the Crimea and so on to the Caucasus their development will to some extent take place at the expense of Odessa, which is not on the new route.

The ports of the Sea of Azov vie in importance with

those of the Black Sea. Rostov-on-Don, Taganrog and Novorossisk are all important and progressive ports linking up the Volga and the Don, served by three important railway systems, tapping the great coal and iron districts of South Russia, and the rich agricultural country of the Don Cossacks, the oilfields of the Northern Caucasus, and are, moreover, the chief outlets for the great agricultural regions of South-Eastern Russia and Siberia. Rostov-on-Don is one of the great centres of distribution of agricultural machinery. Its imports by sea and rail for 1913 amounted in value to £550,300, of which £392,400 was grouped as miscellaneous, including aluminium, paint, wax, etc. Other import items included the following: Tea (in bricks), £33,200; machinery for factories, £22,100; sewing-machines, £18,300; wine, £18,100; metal ware, £15,000; spirits, £13,400; locust beans, £9,400; coffee, £6,500; olives, £6,400.

Batoum, on the eastern shore of the Black Sea, is chiefly noted as the port for the export of petroleum from Baku, on the other side of the Caucasian peninsula. The oil is conveyed by pipes.

The ports of the Caspian Sea have chiefly a local interest. Astrachan, at the mouth of the Volga, distributes the produce of the great district covered by that river, while Baku, in addition to being the seat of the Russian oilfields, is the natural port for exporting to Persia and Central Asia of both Russian and foreign manufacture.

In all the Russian ports considerable construction work will be undertaken immediately after the war, creating a great demand for cranes and other dock and harbour appliances, as well as for engines and the requirements of shipbuilding.

XII

THE BALTIC PROVINCES AND POLAND

German influence—Riga—Trade and Exports—Imports—
Poland—Warsaw.

THE three provinces of Russia bordering on the Baltic, Livland, Estland and Courland, together with the divisions which comprise Russian Poland, have come very much more under German influence than any other part of the country. There are many reasons to account for this. Riga, the Queen of the Baltic, the town that stands as representative of the three provinces, no matter to whom she owed allegiance, has always been her own mistress. That is the secret of her history for over seven centuries ; that, and her association with the sea. "Russian" Riga had been, in name, for only two hundred years, and, in fact, for only twenty-five. Before Peter the Great, who last subdued her, she owed duty to Gustavus Adolphus and to his successors. But neither he nor the masterful Charles XII.; nor Peter himself, ever attempted to infringe the historic Charter under which Riga claimed the right to practise the Protestant religion, the German language, and independent jurisdiction. The Great Catherine did, indeed, instal a Viceroy for Riga and Livonia. Riga bowed to the whim of a woman who had danced and lost her shoe in the city ; but after her death the Viceroy disappeared. It was one of the old Hansa ports with Hamburg and Bremen, and could hardly have failed to have inherited the spirit of

German enterprise or to draw within its boundaries shippers, merchants and manufacturers of German origin. Riga was as German as Lübeck or Bremen. Metz is not so French, nor Trieste so Italian, as Riga was German. But Riga was no irredentist, no captive weeping by the waters of Babylon. Riga was "German" of the good old northern, liberty-loving sort; seafaring, patrician, republican, like her elder sisters of the Hansa, not stuck-up and boorish, like the Buffkes, as the men of the Russian Baltic call the Boches.

In 1889 the Tsar Alexander III. made a determined effort to Russianise the administration of his dominions. Riga, too, was to be transformed. Riga suffered and was still under the revolution of 1905, when her workmen caught the infection of the fevered countryside. But revolution was never Riga's way. The old Hansa city, ruled in turn by archbishops, by Teutonic grand masters, by alien captains and kings innumerable, elected as her chief burgomaster the brother of a British peer.

If the Bremen traders who, towards the middle of the twelfth century, drifted to the mouth of the Dvina and settled there, had landed on an island, another England might have arisen in the Eastern Sea. It was, too, a next-door neighbour of the English in their Schleswig home, Bishop Meinhard of Holstein, who in 1188 brought the gospel of Christianity to this distant shore. His successor, Bishop Albert, founded in 1201 the town of Riga, at the mouth of the Rege, a tributary of the Dvina, and his town-guard was called the Brotherhood of the Sword.

The brothers went into partnership with the Teutonic Order against the Danes, and soon the order started to quarrel with the ecclesiastical and temporal head of the town, who had been raised to the dignity of Archbishop. During the three centuries for which this struggle

lasted the burghers usually took the side of the Church, whom they found to be an enlightened patron of trade. The struggle between the Archbishop and Grand Master ended with the extinction of both at the Reformation, in favour of which Riga pronounced as early as 1522. For nearly four centuries the city remained one of the chief strongholds of Lutheranism in the world.

But the Great Merchants' Guild of St. Mary continued to meet in the visible presence of an image of the Virgin, the symbol of the Roman faith, which was as old as the guild and nearly as old as the city. Riga's debt to the Church was indeed a heavy one. The instinct which prompted the Prince-Archbishops of the thirteenth century to affiliate Riga to the Almighty Hansa League was politically, as well as economically, sound. This act was the greatest service of all.

Under the Hamburg code the merchant-venturers of Riga prospered exceedingly and learned to ruffle it with the best of the Easterlings. This tradition was never lost. Although not as wealthy as the magnates of Hamburg or of Bremen, the merchants of Riga enjoyed a dignified ease. For the last century and more they passed their leisure in a club which, for sureness of taste, equalled anything of the kind to be found in London. The dining-room, the billiard-room, and the library were thoroughly well appointed ; and in the reading-room were to be found the *Times*, the *Economist*, the *Westminster Gazette*, the *Temps*, the *Matin*, the *Figaro*, together with innumerable Russian, German and other periodicals. There were also a yacht club and two automobile clubs, the members of which made nothing of a run to the Caucasus or the Crimea, to the Austrian Alps, Switzerland, or the Riviera.

It was tradition that inspired and disciplined all this. Exactly five centuries ago the young bloods of the city

founded a bachelors' association, called the "Black-heads" (Schwarz-häupter), after their chosen patron St. Mauritius, the Pious Moor. They acted as a sort of volunteer police by land and sea, and, when occasion offered, they were not above doing a bit of buccaneering on their own account. On shore they forgathered in a building which rivalled the Great Guild for splendour and still stands as a memorial of their prowess. No Baltic town, and certainly not Petrograd, can show anything so fine as the Black-Heads' house. On its gabled and elaborately decorated front it bears the arms of Riga flanked by those of Hamburg, Lübeck and Bremen. Its collection of armour and presentation plate was priceless, and in the great banqueting hall contemporary portraits of Gustavus Adolphus, Charles XII., Peter the Great, and the Great Catherine looked down upon the guests.

Other monuments of the period endure in the shape of a dozen churches, several of which, together with the cathedral, were founded seven hundred years ago. These emerge prominently from among the newer Orthodox foundations, including also a cathedral, erected to the number of another dozen in more recent years. The last Catholic Archbishop of Riga, William of Brandenburg, died in 1563 ; but, although the churches were converted to Lutheran uses, the edifices themselves remained, rich in memories. Many of these are enshrined in the old convent attached to the cathedral. Among secular buildings the castle is prominent, with a four-hundred-year-old statue of the last grand master of the Riga branch of the Teutonic Order. Until 1856, when the ramparts were dismantled, Riga was a first-class fortress, defended by the Dvina on the west and by a moat towards the east. One bastion alone, the powder tower, into which Swedish cannon-balls have burrowed deep, has been preserved.

Since the fortifications were dismantled, the city had grown rapidly, on both banks of the river, around the kernel of the old town. Among the public buildings which sprang up during the last half-century were new post and police offices, a railway office and a new station, the Cotton Exchange, several barracks, a polytechnic college for two thousand students, a number of schools, new German and Russian theatres, a Lettish museum and club house, and above all the stately Orthodox Cathedral. Among the new monuments are statues of Peter the Great and of Barclay de Tolly, the son of a Scottish merchant family long settled in Riga, who commanded the Russian armies during the earlier phases of the Napoleonic invasion. Well-laid-out parks and open spaces, with accommodation for football and tennis, abound. A death-rate of only 18 per 1000 attested the excellent hygienic policy of the municipality.

The Dvina, which at Riga is half a mile wide, is spanned by a massive iron railway bridge, that dwarfs the old pontoon structure below it. On the broad stream of the river steam-ferries used to ply between the old town and the further shore, where are the shipbuilding yards and the fortress of Dünamünde.

Before the war, although Libau carried the Russian transatlantic traffic, the trade of Riga, inward and outward bound, stood at 4,000,000 tons, and its value at £40,000,000. This trade was borne in almost equal proportions under the Russian, the German and the British flags. There were direct services with Petrograd and Libau ; with Stockholm, Copenhagen, Rotterdam, Antwerp and Rouen ; and with Dundee, Leith, Hull and London.

Among the chief exports were flax, hides and timber, to the value of £5,000,000 each. Eggs came next ; 1,000,000,000 of them, valued at £3,500,000. Most of

these, together with about £500,000 worth of Siberian butter, found a market in the United Kingdom. Cereals accounted for another £1,000,000 ; linseed for £750,000 ; india-rubber goods for £500,000. The chief imports included machinery, £2,500,000 ; india-rubber and copra, £2,000,000 ; cotton and jute, £1,000,000 ; herrings and tea, £500,000 each.

But Riga had long ceased to be content merely to fetch and carry for others. During the last twenty years several hundred factories had sprung up, including foundries, cotton-spinneries, pulp-mills, china factories, and an india-rubber manufacturing company, which was the largest of its kind in the empire. This industrial development had brought about a marked change in the city and its surroundings. Two years ago the Russians started scrapping and dismantling all this complicated machinery, and left little more than an empty shell. It remains to be seen how far Riga, after the war, will be able to get back on to its new high road to prosperity. During two decades of industrial activity the population had doubled, and numbered, before the exodus, over 500,000. The backbone was the Baltic-German element. It amounted to between 40 and 45 per cent. Together with an enterprising Lettish element, numbering 15 to 20 per cent., the Lutheran element was estimated at about 60 per cent. The Russian and Orthodox element numbered about 20 per cent., and the Jews about 15 per cent. The Russian element was largely accounted for by the Bureaucracy.

Under the regime of martial law the German element, says a correspondent of *The Times*, could but bow to the ordinances prohibiting the German language, not only in official intercourse, but also in private. But Russia would be the poorer if the spirit which created the great Republic of the Baltic should be crushed out of existence.

If the city did not exist it would have to be created. A tradition which goes back five hundred years before Peter founded his burgh on the Neva is an asset that any empire may be proud of.

With all her intense pursuit of practical ends, the good sense bred of independence and of association with a larger world across the sea saved Riga from narrowness of mind. Riga already a hundred years ago was more cultivated than either Moscow or St. Petersburg, more appreciative of artistic sweetness and light even than Königsberg, or many another Prussian town. Riga was never a university town. She never gave birth to a Kant. She preferred to give birth to his publisher. But she welcomed Herder and Hardenburg within her walls. In 1837, too, Riga applauded Wagner's lost overture "Rule Britannia" and sheltered the composer while he wrote the music to Bulwer's "Rienzi."

With the same just sense of proportion the City Fathers have not allowed the warehouses, elevators and factory-shafts of the new era to efface the historic aspect of the city. The towering spires of the old Catholic churches and the castle still dominate the foreshore of the old town, with its mile of open market on the quays under the shadow of gables that bear the hall-mark of the Hansa.

Riga, owing to its splendid water and rail communication with the forests of White Russia and Volhynia, is a great mart for timber. No better wood for railway sleepers can be obtained in the whole world, and hundreds of thousands were exported yearly to Great Britain and other countries. The stoppage of such an enormous trade would be a serious loss to this country, as it is not easy to replace this particular class of wood for the purpose because of its facility for absorbing creosote and its resiliency. Also the freightage on this timber is far less

than from America. Pit props are exported in enormous quantities, as well as flax and hemp.

The trade of the port consists generally of coal, cork-wood, dye, pig-iron, machinery, steel, coffee, cottons, woollens, fruit, herrings, tobacco, wines, spirits, etc., and the exports are, in addition to timber, flax, hemp, wheat—though this is less than formerly—rye, barley, oats, seeds, oilcake, eggs, butter and wood goods. A great demand is anticipated after the war for agricultural implements, and it is estimated that the country will want :

150,000 ploughs	7,000 cultivators and spring harrows
2,000 disc harrows	
1,000 field harrows	4,000 thrashing machines
20,000 horse rakes	4,000,000 scythes
8,000 sorting and cleaning machines	500 tons of spades and shovels
	600,000 hay rakes

Imports of foods and drugs present great possibilities for British manufacturers. These articles mostly came from Germany before the war, and some idea of the extent of the trade may be gathered from the fact that in 1903 drugs and chemicals to the value of 5,416,900 roubles were imported into Riga. Chemical manures were imported to the value of 4,241,900, and electrical machinery and accessories for use in the Riga district to the value of 3,235,000. Imports and exports have been shut down altogether during the war, but British manufacturers were looking forward to a greatly enhanced trade with this port after the conclusion of hostilities. Not only is the German element very strong in the Baltic provinces, and especially in Riga, but there are also a larger number of Letts and Esthonians, adherents of the Lutheran Church and out of sympathy and touch with the Russian Church, in which latter is largely embodied the national sentiment and sympathy. With a broader view of the

duties and responsibilities of a new democratic government towards the diversified peoples that compose its population, a better national spirit and closer co-operation may be expected, and this will tend to materially reduce the German influence that has so long prevailed.

What has been said about the Baltic provinces applies in even greater degree to Russian Poland. Three-fourths of its population are Roman Catholic, only seven per cent. are members of the Orthodox Church, and more than one-third of the residents of Warsaw were Jews. The language is entirely different. So that while among the Poles there was no very great affection for Germany, there were, on the other hand, no close ties with Russia. A story is told that illustrates the point. After the capture of Warsaw a German general was quartered in the home of a prominent Pole. At dinner one day he said to his hostess, "Would you not rather be under the German Government than the Russian? You would have greater privileges, more liberty and less interference." "Sir," said she, "what difference does it make to the ox whether he is roasted or boiled?"

The contiguity of Poland to Russia, the nearness of the German factories and the consequent reduced cost of transportation, the ease with which German travellers could cover the country, the number of German traders who had settled in Poland, the Jews, more than twice as many as the Russians and free from any national prejudice, all conspired to make German trading with Poland a comparatively easy matter. Moreover, to avoid the heavy Russian tariffs the Germans established their own factories in Poland. Lodz, from a town of 60,000 in 1860, became a city of half a million, of which Germans and Jews comprised one-half. Almost all its industries were in German hands, the Carl Scheibler factory alone employing about 7500 workmen. It is the central point of the

textile industry in Poland, its annual products reaching a value of fifteen millions sterling.

In Warsaw, with nearly a million people, much the same conditions prevailed, a large proportion of its factories being under German domination, either open or disguised. Its traders, merchants and agents were largely Jews. It is impossible to predict what will happen in Poland after the war. Nearly all the factories not under German control are now being conducted in the Moscow district and Southern Russia, all the plant and machinery having been transplanted at the time of the evacuation of Warsaw and the surrounding districts. It is very doubtful if these will again return to Poland. If Poland regains its independence at the instance of Russia and its allies and shares in the restrictions that will be made on German commerce, it will again recover its old-time prestige, and become a valuable market, as well as a producing centre.

XIII

THE URAL MOUNTAINS AND EKATERINBURG

The Ural Mountains—Metallurgical works—Ural charcoal iron—Mineral deposits—Possibilities of the district—Articles required—Industries to be developed—Existing industries—Imports into Ekaterinburg—Opportunities for educated technical labour.

THE Ural Mountains is a range of low-lying hills on the eastern border of European Russia, and almost, but not quite, dividing it from Siberia. Both the railway from Petrograd and that from Moscow cross these mountains en route to Siberia, but the grade is so little and the height so insignificant that no tunnels are required, and in fact, one scarcely notices the difference. Ekaterinburg, the centre of this huge mining district, is a town of about 100,000 inhabitants, and is 1,300 miles distant from Petrograd. The importance of the Urals may be gauged by the fact that two-fifths of the total production of the mines and metallurgical works of the whole Russian Empire in normal times are credited to that area, which includes the governments of Perm, Tobolsk, Krasnooufimsky, Orenburgsky and Oufimsky, the total being 19,000,000 pounds sterling as against 48,000,000 in the empire.

There are no fewer than 78 private and 14 Government works engaged in metallurgy in the Urals, and the total of their pig-iron production in 1913 was 902,200 tons ; of manufactured iron, steel, and rails, 615,085 ; and of

copper 15,596. In the five years' period 1907-11 the production of copper increased 98 per cent.

The quality of the iron smelted in the Urals is highly praised in Europe, owing to the fact that charcoal, not coke, is employed in the smelting process. That, however, means costlier production. As the exhaustion of the forests in the immediate vicinity of the Ural works (Ekaterinburg) is now approaching, either new railways will have to bring charcoal from the north or a suitable coking coal be found in the Urals. Several attempts have been made in the way of briquetting and coking the inexhaustible quantity of peat in the Urals, but so far with little practical success. There are, however, unlimited possibilities for anybody capable of solving this problem.

In addition to iron and copper, the valuable mineral deposits of the Urals include, in the following order of developed importance—coal, platinum, salt, gold, asbestos, sulphuric pyrites and chrome. About 95 per cent. of the world's platinum comes from the Urals. Besides the metals and minerals mentioned, considerable quantities of precious stones, including emeralds, topaz, chrysoberyl and aquamarine, are produced; also stones that can be beautifully ground and polished, such as hornstone, malachite, jasper, serpentine and other silicious rocks. Graphite mining has been commenced in the vicinity of Ekaterinburg and small quantities sold. Special lines of railway have been constructed to connect the main line with the various mining towns, Ekaterinburg being the junction of no less than seven different lines.

Notwithstanding the immense possibilities of this district and the repeated urgent representations of the Vice-Consul, Mr. Thomas H. Preston, one of the really live British representatives in the Russian Consular Service, very little has been done by British manufacturers to take advantage of the magnificent opportuni-

ties here afforded. It is a part of the country very seldom visited by their representatives, presumably because it is about three days' journey from Petrograd, with only such unimportant towns as Vologda, Viatka and Perm en route.

In a recent consular report Mr. Preston says: The advantages to be gained by commercial relations between the Urals and the United Kingdom can be divided into three categories, e.g. :

(a) Import of manufactured material from the United Kingdom into the Urals to as far as possible replace the gap left by Germany in her imports (former) ;

(b) The investment of capital in sundry industries, the object of which would be to utilise the different raw materials available on the spot for the manufacture of many articles which were formerly imported from abroad, and

(c) The export of such raw materials which are not manufactured in Russia, and which generally by their export duties make them a lucrative business.

The following articles may be attributed to the first category: Pharmaceutical products and chemicals, including cyanide of potassium for gold mining; MACHINERY: electrical plants, turbines, steam-engines, locomobiles, mining machinery, including ore-reducing plant, hauling plant, pumps, metallurgical plant and other mining requisites; wood - cutting machinery, hardware, glass ware, haberdashery, hosiery, leather goods, ornaments, stationery, office furniture, photographic outfits, sporting outfits, cheap jewellery, toilet outfits, soaps and perfumes, musical instruments, cycles and motor bicycles, and the following metals: high-speed steel, aluminium, wolfram, zinc, spelter and lead.

The second category embraces so many possibilities that it is impossible to mention them all in this short report. To mention a few, however:

Manufacture of cutlery, hardware, cement, cyanide, fire-bricks, wire rope, tanning, etc., etc.

To the third category may be attributed only a few of the raw materials produced, owing to the great consumption of such locally.

The following are the chief objects of export :

PLATINUM. Hitherto almost exclusively exported to Europe, on which market it is practically dependent.

ASBESTOS. Very much in the same position as platinum.

TIMBER, PRECIOUS STONES, FURS, WHEAT AND FARMING PRODUCE (chiefly from Siberia).

Besides the mining and metallurgical works mentioned in this report there are the following other industries in the Urals, most of which have only been commenced during the fast few years.

Cement works (3) since 1913	Glass (bottle) factories
Paper mills	Match factories
Brick factories	Sack and bag factories
Sulphuric acid factories	Cloth (rough) factories
Numerous mechanical works	

The profits made on the turnover of these factories are seldom less than 30-40 per cent.

The scope for importing manufactured goods into the Urals from the United Kingdom is very considerable. To give some actual figures four firms in Ekaterinburg have approximately the following turnovers, 75 per cent. of which has been German imported goods :

One of the General Stores selling hosiery, haberdashery, stationery, ornaments, ready-made clothing, boots, shoes, toilet outfits, groceries, tobacco, etc., etc. . .	Rs. 4,000,000
Electrical machinery (German)	15,000,000
Other machinery	12,000,000
Flour milling	5,000,000

In all there are over thirty large agencies in Ekaterinburg doing business in machinery and electrical supplies.

Agricultural machinery is practically all supplied by local and American firms, so that there is little to be done in this line at any rate as far as the Urals are concerned.

Owing to the restrictions to be imposed on the Germans in future, e.g. prohibiting them from occupying positions of authority, there should be a lack of educated technical labour, as, for instance, mechanical engineers, mining engineers, electrical engineers and commercial men, etc. There seems no reason why qualified men of British nationality should not fill their places. Some slight knowledge of the Russian language would be essential. Few districts in Russia afford such potential possibilities of every description as Ekaterinburg and the Ural Mountains; there is scarcely one that is more neglected or so little known.

XIV

FINLAND

Entirely distinct from Russia—Principal towns—Paper mills—Imports—Catalogues—Prospects.

IN any list of British Consulates in Russia, or of Russian towns, will be found Helsingfors, Viborg, Abo and other Finnish towns. But Finland is much more distinct from Russia than any other part of the empire, not excepting the Caucasus. It has its own language and its own coinage and weights and measures. It has its own tariffs and customs administration. Even in the large towns Russian is understood by comparatively few, and hardly at all in the country districts. The gilt and coloured domes of the Russian churches are conspicuous by their absence. The signs over the shops, the newspapers are all Finnish. So that whatever form Finnish independence may take does not in any way affect the commercial relations between this country and Finland.

When all this is remembered, it is obvious that Russian agents are of very little use in Finland, which should be dealt with on an entirely different basis. As I write a letter comes to hand from one of the Vice-Consuls. He says: "It is of the greatest importance for firms to send representatives to this country to open up new business relations and to make themselves personally acquainted with their customers and their requirements, local conditions and circumstances.

"Finland is distinct as from Russia; it is no good

sending Russian pamphlets and catalogues out here, where the languages are Finnish and Swedish.

"I have always advocated the opening in this country of a central office representing various trades, and in touch with British firms engaged in those trades.

"Such an office being on the spot would be able to correspond with Finnish firms in their own language, offering their quotations c.i.f. in the weights, measures and currency of the country, and would be able to be in touch with all requirements in the various branches of industry in the country, and thus be in a position to divert a great deal of trade to Britain."

The same results could, of course, be obtained by the appointment of reliable agents at Helsingfors, the principal town.

Finland is about 20 per cent. larger than the British Isles, but nearly 11 per cent. of its area is composed of the lakes which are a characteristic feature of the country. The population is between three and four millions, rather more than Wales and not so great as Scotland or Ireland.

The principal towns with population at the census of 1913 are :

Helsingfors	.	.	161,091	Vasa	.	.	.	23,275
Abo	.	.	52,057	Uleaborg	.	.	.	21,271
Tammerfors	.	.	46,192	Bjorneborg	.	.	.	17,072
Viborg	.	.	28,257	Kuopio	.	.	.	15,845
				Kotka	.	.	.	11,609

One of the principal industries in Finland is the manufacture of paper, ten of the mills making hand paper having been established over one hundred years ago. There are now seventeen chemical pulp mills in Finland, the bulk of the products of which are exported to Russia.

When, in view of the war, the Russian paper factories were unable to satisfy the huge demand for newspaper

paper, and a paper famine began to threaten the Russia Press, G. R. Bierkenheim, director of the Finnish Joint Stock Company Kummene, came to the rescue. This company owns three great paper mills which supply paper to more than three hundred Russian papers. Thanks to the energy and indefatigable labours of Mr. Bierkenheim, the output of the Kummene company has been raised to unprecedented dimensions. This factory now produces annually more than seven million pounds (112,000 tons) of paper pulp and paper, endeavouring thereby to provide for the needs of the Russian Press. It is interesting to note that the joint stock company, Kummene, is now regarded as the biggest enterprise of the paper industry, not only in Russia, but in all Europe.

The Acting British Consul at Helsingfors reports that, with a view to saving expense and trouble, nearly all the Finnish paper mills have decided to become members of a society which has been formed mainly for the purpose of buying in co-operation raw materials for the various mills, such as sulphurous earth, china-clay, chlorate of lime, calcium of soda, glauber salts, limestone, lime, resin, sulphur, lead, hoop-iron, iron wire, and jute cloth.

The bulk of Finland's imports in 1913, amounting to £19,813,600, and the exports, amounting to £16,142,000, were discharged at or forwarded from Helsingfors. Finland's chief import from the United Kingdom was coal, which amounted to 497,600 metric tons, out of a total of 536,900.

Germany led in the following classes of goods :

Boots and shoes (87 per cent.)	Wheat flour
Cakes for cattle	Fishing nets
Cast iron, etc.	Fruits (dried)
Castings	Grapes
Clothes (silk)	Hides
Clothes (cotton, linen, etc.) ¹	Iron (pig, ordinary black)

Cocoa	Iron (forged, planed, and drilled)
Coffee	
Cotton wool	Looking-glasses
Oranges	Machines (iron and steel)
Silk (cloth, velvet, etc.)	Machines (copper)
Soda (including caustic)	Machine belts
Starch	Wheat (crushed)
Syrup	Wines (in casks)
Tanning preparations	Wines (in bottles)
Tea	Woollen yarn
Timber (odorous)	Woollen coloured

In a Vice-Consular report from Abo it is stated that much of the trade that had found its way into German markets could be diverted to the British if firms would send representatives regularly to Finland, or appoint agents.

Reporting from Bjorneborg, the Vice-Consul says that most of the cotton-spinning and weaving machinery has come from the United Kingdom, while most of the machinery for dyeing, bleaching and raising has come from Germany. The chief import of Tammerfors in 1913 was cotton, which amounted to 7,678,100 lbs. Of that total 6,662,100 lbs. came from Bremen, and 1,014,000 lbs. from Liverpool.

From Viborg it was reported that machinery, chiefly electrical, was supplied by German firms. In respect of agricultural machinery and implements, the United Kingdom ranked fourth to Germany, Sweden and the United States.

H.M. Consul at Helsingfors confirms my correspondent by pointing out that it is useless sending catalogues to Finland in the English language. Catalogues should be in the Swedish language, or, even better, in Swedish and Finnish. British weights and measures are but imperfectly understood, and it is most desirable, therefore, that the metric system should be used.

In competing with British trade foreign firms obtained

a great advantage by keeping large stocks in the country, especially of such staple articles as belting, chemicals (particularly those for the paper trade), coffee, etc. This plan also enabled them to quote, in the currency of the country, prices either duty paid Finland or for delivery at the premises of the buyer.

Travellers of German firms were always to be found all over Finland. They spoke the language of the country, quoted prices in Finnish currency, carried samples of all their wares, and worked each place thoroughly by calling upon both large and small firms. In contrast with this a British traveller was hardly ever seen in Finland, and when one did turn up he generally did not know the language of the country, he usually quoted f.o.b. a United Kingdom port and in sterling, his visits were confined to three or four of the largest towns, and in those towns he usually visited only the largest firms.

Again, as regards agents, German firms appointed agents freely wherever they found there was any sale for their goods. In a very high percentage of cases they sent stocks of their goods to these agents, who settled quarterly for those that had been disposed of in that period. It was very largely owing to this arrangement that the Germans captured the local market for belting. When German agents ascertained that local buyers had been offered firm prices by British traders, in numerous instances they were instructed by their German principals to quote at a cheaper rate.

There is no doubt that British firms working for the export trade would find it advantageous to pay more attention to wrapping and packing. Thus, many German firms supplied goods for the Finnish market with the description, etc., of the goods printed in the Swedish and Finnish languages.

Another matter about which complaints are made is

the difficulty experienced by local tailors and other buyers of British cloth in getting consignments suitable for their requirements. Finland is a small country, and what these buyers want are consignments of various small lots of different cloths, whereas British sellers generally sell by the piece. The German middlemen used to make up consignments of small lots according to the orders of the local buyers, and it seems to have paid them well to do this.

A well-informed writer in the *Manchester Guardian* admirably sums up the Finnish outlook. He says that the future of Finland, if all goes well with her politically, contains good promise of progress and prosperity. Administratively divided into eight provinces connected by a well-developed railway system aggregating nearly 2000 miles in length, and for the most part belonging to the State, and intersected in various directions by canals and navigable rivers of a total length of 2,760 miles, it is also covered by schools which make the Finnish people one of the best educated in the world and form the moral basis of the political and social life of the country. All Finns are literate, all read newspapers, and all are intensely interested in the affairs of the world, in spite of the apparent provincialism of their everyday existence. Their towns—Helsingfors with 160,000, Tammerfors with 46,000, Abo with 52,000, Uleaborg with 21,000 inhabitants—are well laid out in wide and airy streets, and Helsingfors, the capital, is liberally provided with monumental buildings, expensive parks, monuments, educational establishments, and conveys the impression of a thoroughly up-to-date European city. The financial position of the country is quite sound. The public debt—incurred for the most part for productive purposes, such as railways—does not exceed £10,000,000, while the property of the State has a capital value of £36,000,000.

The trade of Finland amounted in 1913—the last complete year for which data are available—to nearly £20,000,000 in imports, and to more than £16,000,000 in exports. The main articles of imports were agricultural produce to the value of £2,800,000 (from Russia and Germany), groceries and colonial produce (value £2,000,000), of which half came from Germany and rather less than half from Russia, and textiles and machinery, of which a good deal came from this country. The exports were to the extent of more than one half made up of timber (of which this country was the largest single buyer), of wood pulp and paper goods (£2,700,000), of which Russia was by far the largest buyer, with the United Kingdom as second, and farm produce (£1,800,000), which practically all went to Russia. It is seen from this that the chief wealth of the country is its forests, the exploitation of which for timber and wood pulp is great and becoming ever larger. But also the mineral wealth of the country is considerable and awaits development. There is, further, plenty of scope for capital and enterprise in public works, such as tramways, lighting, drainage, etc., in the engineering and chemical lines (in conjunction with the utilisation of water power), and in the supply of textiles and colonial produce.

XV

SIBERIA

Its size—Physical features—Agricultural implements—Ploughs—Threshing machines—Small tractors—Dairy appliances—Lack of transport facilities—New railways opened—Supplies required for railway construction—Additional cold-storage facilities—Grain elevators—Possibilities for future trade—Present trade situation.

SIBERIA has an area of 4,784,034 square miles, is half as large again as the whole of Europe, and more than forty times larger than the United Kingdom. It extends from the Ural Mountains (59° E. Long.) on the west, to the Sea of Japan and the Okhotsk and Behring Seas on the east (174.24° E. Long.), and from the Arctic Ocean on the north to China on the south.

Western Siberia, from the Urals to the Yenisei, is for the most part a flat plain, with good arable land in its central and southern portions. Eastern Siberia, which is three times as large, is mountainous and less fertile, labouring under the disadvantages of a severe climate in its western part and of periodical inundations in the east. In Northern Siberia most of the ground is covered with forest gradually passing over into a waste of barren lands which are frozen for the greater part of the year and marshy in the summer. To the south and south-east are the Altai Mountains, with peaks from 10,000 to 15,000 feet high, while five rivers, each nearly 3000 miles long, empty their waters into the Arctic Ocean and the Sea of Okhotsk. The temperature ranges from extreme heat to extreme cold. The great majority of the nearly

twelve million inhabitants of Siberia, especially those in the towns and along the railway, are Russians, including free emigrants (peasants and Cossacks) and the exiles and their descendants. The Turkish (Kirghizes, Tartars, Yakuts), Finnish and Mongolian races are also represented.

The popular impression of Siberia as one huge waste has in recent years been largely dissipated. The opening of the Trans-Siberian railway about fourteen years ago has given a better idea of the country and added to its potentialities of development.

Nearly half of the trade of Siberia has been done through Moscow, but there is a very strong and growing feeling in favour of more direct trading. Moscow agents with contracts covering the whole of Russia are either likely to ignore this important section, or to depend upon sub-agents, whose commission adds to the cost of the goods to the consumer. The exports to Siberia have been largely connected with the agricultural industry, but with the growth of population has arisen a demand for articles of general use.

In the plains of Western Siberia are exceptionally fertile lands supporting 8,000,000 people, exclusive of the urban population. During the five years 1909 to 1913 the area of new lands opened up for settlement by emigrants from European Russia was 75,850 square miles, and the number of settlers was 2,000,000. The completion of the new railway programme and the consequent opening of new districts should result in future emigration on a still larger scale. Emigration to Siberia is regulated by a colonisation bureau established in connection with the Department of Agriculture. Most of the settlers take up land on the communal basis ; the title remains in the Crown, but the peasant obtains the use of the land free for the first five years, and thereafter in return for taxes. The Government has established depots for the sale on

easy terms of agricultural implements, experimental stations for testing farm machinery, and institutes for agricultural instruction. Small holdings are the rule in Siberia. No immediate market is to be expected, therefore, for the more expensive types of farm machinery.

A large proportion of the less complicated machinery and implements is manufactured in Russia by establishments started by British and German enterprise. Most of the factories are located in South and Central Russia. For other agricultural machinery Western Siberia depends on imports.

An important part in the distribution of agricultural implements is taken by the dépôts of the Imperial Colonisation Bureau. In 1909 there were 64 of these dépôts in Siberia ; in 1913 there were 300, of which 220 were in Western Siberia. The sales in 1913 amounted to 7,500,000 roubles, and the value of the implements imported into Siberia for the use of these dépôts amounted to 8,400,000 roubles. The implements supplied must be of Russian manufacture, if possible, though exception is made of American harvesting machinery. In spite of the liberal credit terms of the dépôts, their dealings are confined chiefly to the less prosperous peasants, and a large field remains open to outside competition.

The kinds of implements in demand. The following statement giving the number of agricultural machines and implements sold at the dépôts of the Imperial Colonisation Bureau in Siberia during 1912, 1913, 1914 and 1915 indicates the nature of the trade in agricultural machinery :

	1912 No.	1913 No.	1914 No.	1915 No.
Single ploughs	37,315	35,794	30,868	19,107
Double ploughs	1,563	4,198	3,834	3,908
Ploughs and seeders combined	1,021	1,934	1,128	1,144
Cultivators	249	497	438	315
Harrows	645	1,010	1,291	510

	1912 No.	1913 No.	1914 No.	1915 No.
Broadcast seeders	247	264	354	229
Broadcast seeders and disc drills	965	473	453	946
Mowers	7,184	2,955	4,631	2,669
Hayrakes	6,427	2,962	3,879	2,260
Reaping attachments	1,876	1,206	1,813	1,228
Russian hand-rake reapers	4,732	3,023	3,776	1,910
Reapers, other	5,782	3,014	4,001	1,866
Binders	893	1,150	1,384	450
Thrashers, horse power	1,426	1,234	1,110	212
Thrashers, home-made, hand- power	2,089	1,845	2,544	858
Winnowers and cleaners	7,060	6,205	6,991	4,849
Grain sorters	422	347	346	211
Millstones (sets)	446	576	402	166
Carding machines	140	154	124	66
Chaff cutters	846	374	444	180
Hay presses	5	15	89	4
Cream separators	289	343	434	258
Churns	154	173	184	135
Wagons	2,483	2,891	3,315	2,259
Pump fire engines	43	45	48	47
Weighing machines	501	454	525	192
Sickle and scythe grinders	2,087	1,081	2,023	978
Axes	2,087	1,801	2,023	978
Forks	3,123	3,271	4,202	2,628
Shovels	154	1,362	1,887	2,591
Scythes	6,225	7,213	7,495	6,050

Before the war the usual credit granted to purchasers of farm-operating equipment extended over two harvests; for heavy machinery the period was two to three years. The losses from non-payment of debts have been negligible in comparison with the total turnover.

Imports of agricultural implements have now practically ceased, and the Russian factories for the most part have been busy in other directions. Stocks have been cleared off and a business has sprung up in overhauling and selling old machines. After the war all kinds of farm-operating equipment will be required in large quantities. Manufacturers could doubtless find suitable representa-

tives ; but by establishing a branch for the territory at some central point, preferably at Omsk, the necessity of sharing the profits with more than one dealer could be avoided. Manufacturers should send sample machines for testing.

The type of plough in use. The number of ploughs sold in Western Siberia exceeds 100,000 per year and the greater number are of Russian manufacture. The Russian ploughs are roughly but strongly finished, and are both light in weight and cheap, the two qualities most essential in Western Siberian trade. The Western Siberian soil is clay covered with a layer of black earth twelve to eighteen inches deep, which yields easily to the plough. The furrow is usually three to five inches deep. The plough with the single-curve share is considered most suitable. Nearly all the ploughs sold are fitted to a German fore-carriage. The walking plough is used almost exclusively. The weight of the one-share ploughs sold is 145 to 190 lbs. There is a small demand for heavy ploughs. The single-furrow plough has the largest sale.

Ploughs with seeders combined are in growing demand. The four-share size with a lever is the most popular, combined with a seeder that drops the seed into the open furrow, the next following share covering it. The use of three and four furrow gang ploughs is increasing, and there is also a limited sale for the larger sizes of gang ploughs among the more well-to-do landowners. The gang ploughs manufactured for this market should embody the principal features of the single ploughs sold, such as light weight, and should also have more clearance than is usual with American gang ploughs.

Disc drills have become popular in Western Siberia. Plain drill seeders with seven to nineteen drills also have a large sale. Disc harrows are coming into favour. Spring-tooth harrows on wheels are also largely used, as also are

cultivators. The seven-tooth cultivator is most in demand, but the tendency for the teeth to become clogged with earth is a defect.

The trade with Western Siberia in complicated agricultural machinery is largely dominated by the sales of an American company near Moscow, supplemented by imports from Canada and the United States and by the products of other manufacturers in Russia. Russian manufacturers devote their attention chiefly to the lobogreika, or hand-rake reaper. This machine is a very cheap reaper with a reel and requires an extra person, seated on the outer back corner of the platform, who does the raking off with a pitchfork. The lobogreika is popular because it can be used for either grain or grass. Large numbers of mowers and horse-rakes are sold. A one-horse rake 8 feet wide with thirty working and two stationary prongs and a two-horse mower $4\frac{1}{2}$ feet wide are considered most suitable. The most popular self-rake reaper is 5 feet wide; the most popular binder, 6 feet. The use of the right-hand binder is practically universal. Complaint has been made that the forecarriage fitted to binders of the American type has a tendency to fall over to one side.

The thrashing machines used in Western Siberia are operated on the English principle. The four-horse and eight-horse power sizes are the most in demand. Power thrashing outfits have been successfully imported from Great Britain and Germany in competition with the local make. Ten-horse power thrashing sets have the largest sale. The prevalence of alkaline water in Western Siberia, however, is against the steam-driven engine. The most available fuel for power purposes is either kerosene or crude oil, naphtha being difficult to obtain. There is, however, a growing demand for kerosene or crude oil vertical motors of about the fourteen to sixteen horse-

power size, sufficient for use with thrashers or small flour mills and for irrigation purposes.

The demand for small tractors. There is an opening for a small tractor burning kerosene or crude oil. A petroleum tractor of fourteen to twenty horse-power is required which would be capable of pulling a three or four furrow gang plough. The tractor should be relatively simple in construction and easy to operate. The platform and control levers should be so arranged that only one operator will be required for both the tractor and the ploughs.

The rapid rise of the dairying industry of Western Siberia has caused a great demand for dairying appliances. Churns, butter presses and other accessories are mostly of Russian manufacture, but cream separators have been supplied chiefly by Sweden and Germany. The separators sold range from the 5-vedro (16.2 gallons) size up. There is also a limited demand for power separators, the largest being 585 gallons.

The Canadian Government, more alive to the situation than our own Board of Trade, has a special Trade Commission in Russia who has made a special investigation into the probable future development of Western Siberia, from which the following summary has been made :

From the point of view of trade development, Siberia may be divided into three separate districts or " zones." In Western Siberia, which comprises the territory stretching from the Ural Mountains to east of the Yenisei River, trade is more or less subject to the influences of European Russia and, in normal times, foreign supplies are imported either across the European frontier or through the Baltic and Black Sea ports. The central zone of Siberia consists of the territory around Irkutsk and is chiefly important from the point of view of mineral development. The distance from the consuming markets limits the production of agricultural and other products, and this district

does not offer as good prospects for future trade as other sections of the country. The eastern part of Asiatic Russia beyond Lake Baikal is generally known as the Russian Far East, and the trade in this territory is specialised business distinct from that with the rest of Siberia. The bulk of the supplies for this region are imported through Vladivostok.

Western Siberia is the most important section of the country agriculturally and is the most thickly settled, having a population of about 9,000,000 persons out of a total for the whole of Siberia of about 11,500,000 persons. In the north the plains of Western Siberia are covered with a forest belt, rich in unexploited timber and fur-bearing animals. South of this forest zone there extends between latitudes 55 and 57 the black-earth region of Siberia, the section most attractive for agricultural colonisation. In the foothills of the Altai and at higher altitudes, there are also excellent agricultural lands and pastures, including an area of black-earth belt which is probably the richest in all Siberia. It has been estimated that the black-earth zone of the Western Siberian plains and the foothills of the Altai farther east could, if properly cultivated, support five times the present population of European Russia.

During the ten years preceding the outbreak of the war, the emigration to Siberia from European Russia was proceeding at the rate of nearly 300,000 persons per annum. The result was that the surplus of agricultural products available for distribution on the European markets and export greatly increased, and before the war had already attained large dimensions.

Lack of transport facilities. One of the chief obstacles to the further economic progress of Siberia has been the great distance from the inmarkets of consumption. The only articles which it has hitherto been found possible

to ship abroad in considerable quantities have been high-priced products of small bulk, such as butter. In some years great difficulties have been experienced in marketing the grain grown in excess of local requirements. The result has been over-production in some districts with prices below actual cost. It would appear, therefore, that Western Siberia has reached the limit of its development under existing conditions and that further organisation and transport facilities are required before the natural resources of the country can be properly utilised.

Western Siberia, besides its resources in agriculture, has also rich deposits of gold, silver, copper, iron and coal. Additional railway facilities are required in order to render possible the further profitable exploitation of these mineral areas.

New railways opened. The need for further transport facilities was realised even prior to the war. The line from Tiumen to Omsk was constructed, thus providing an alternative route between European Russia and the Irtish River. The double tracking of the Trans-Siberian line was undertaken and has been completed from Omsk to the junction with the Amur railway. With the construction of the latter there are now two lines of rail from the Ural Mountains to the Pacific Ocean. During the present year three new important railway lines have been opened for traffic, while the construction of a fourth will soon be completed, as follows :

The Altai Railway. Important developments are expected to result from the construction of this railway, since it serves extremely fertile agricultural districts and also connects rich mineral areas with the main Siberian railway. The line is 514 miles in length and runs south from Novo-Nikolaievsk to Semipalatinsk. From Barnaul a branch has been constructed to Büsk. In addition to opening up rich areas to settlement, this railway

should bring about a new era for the Altai mining industry, as it will now be possible to transport the machinery required for the more extensive working of reef-gold and for other mineral developments.

The Kulundin Railway. This line, which has recently been completed, will serve the wide extent of territory between the Altai railway and the Irtish River. From Tatarskoi, a point on the Siberian railway some 120 miles east of Omsk, the line runs south to Slavgorod, a distance of about 200 miles.

The Kolchugino Railway. The importance of this railway lies in the fact that it will tap the Kuznetsk coalfields, which surpass all other Russian coal deposits in magnitude and variety of contents. The region is also rich in other minerals. The section from the Siberian railway to Kolchugino (124 miles) has been completed. The right to build the lines Kolchugino-Kuznetsk, Kuznetsk-Telebesse and Kuznetsk-Barnaul, of a total length of over 200 miles, has been granted. The necessary authority for establishing a large metallurgical and coke factory near Kuznetsk has also been granted. This district, therefore, promises to become in the near future a new metallurgical centre.

The Minusinsk Railway. This railway runs south from Achinsk on the main Siberian line to Minusinsk on the upper Yenisei River, a distance of 276 miles. The Minusinsk district is another of those agricultural areas of Siberia with a fertile soil and a sheltered location, which have been awaiting the advent of railway communication in order to be properly developed. This district has also valuable deposits of coal and iron.

Programme of future railway construction. The Government has decided to make ample provision for the construction in the immediate future of those railways which seem to be the most urgently required for the utilisation of the

resources of the empire. In this connection there has been published in the press a list of the proposed railways which are to be built during the next ten years. The construction of these railways has been sanctioned by the Commission on New Railways of the Ministry of Finance and by the other ministries concerned. The programme is an extensive one, and includes 65 new railways of a total length of over 20,000 miles. The following particulars are given of the railways comprising that part of the proposed programme which relates to Western Siberia.

South Siberian Railway. This railway will run from Orsk in the Orenburg province of European Russia across the Kirghiz Steppes through Akmolinsk and, crossing the Irtish River at Pavlodar, will continue on through Slavgorod, the present terminus of the Kulundin railway, to Barnaul, where it will connect with the Altai railway and the Kuznetsk-Barnaul branch of the Kolchugino railway. When this line has been built there will be another trunk line across the plains of Western Siberia, about 220 miles to the south of the present railway, all the way from the existing railway system of European Russia to Kuznetsk. It is the intention to extend this trunk line on to Minusinsk on the upper Yenisei River. The new railway will be over 1,000 miles in length, and will provide an outlet for the products of the Kirghiz Steppes and the rich agricultural districts along the upper Irtish and Obi Rivers and in the foothills of the Altai. It should also greatly stimulate the profitable exploitation of the mineral wealth of the Semipalatinsk and Akmolinsk districts, which are especially rich in copper, lead and zinc ores.

Akmolinsk-Spassky Copper Mines Railway. This railway will connect the proposed South Siberian trunk line with the mineral areas to the south in the vicinity of the Spassky copper mines.

Slavgorod-Semipalatinsk-Verny Railway. This impor-

tant railway, which will connect Western Siberia with Central Asia, is to run south from Slavgorod, the terminus of the Kulundin railway, to Semipalatinsk and thence, skirting the foothills of the Altai, to Verny, the centre of a very rich district south of Lake Balkhash. The total length of this line will be nearly 1,000 miles. A branch is to be constructed from a point north of Verny through a depression in the Altai mountains to Kulkja on the other side of the Mongolian border. Verny promises to be the trade centre of an extensive district capable of supporting a large population, and also an important emporium for the trade with Inner Mongolia. A railway is already being constructed to Verny from a point on the Tashkend railway in Russian Turkestan. The connecting of this territory with the railway system of Western Siberia should, therefore, render possible the exchange of Siberian grain and other products for the semi-tropical productions of Russian Turkestan and Central Asia.

Petropavlovsk-Kokchetav Railway. This line will run south from the present Trans-Siberian railway to Kokchetav, a distance of about 100 miles, and will serve the Steppe country between the Ishim and Irtish Rivers.

Kolchugino-Kuznetsk-Telebesse and *Kuznetsk-Barnaul Railways.* These railways are extensions of the Kolchugino railway.

Ekaterinburg-Sinarskaya and *Shadrinsk-Kurgan Railways.* The construction of these two railways will afford direct communication between Ekaterinburg and Kurgan, and should materially assist towards the further development of the Kurgan district.

Achinsk-Yeniseisk Railway. This railway is to run from the Trans-Siberian railway north to Yeniseisk, a point on the Yenisei River some 230 miles below Krasnoyarsk. It will serve the lower Yenisei valley and the agricultural districts north of Achinsk.

Lena Railway. A railway is to be constructed from the main Siberian line to the headquarters of navigation on the Lena River. Railway connection will thus be afforded with the goldfields of the Lena valley.

It is proposed to construct the above-mentioned lines as nearly as possible within the five-year period from 1917 to 1922, and at any rate before the year 1927. Other railways projected include a North Siberian trunk line from Tiumen to Tomsk, crossing the Irtish River at Tara ; a line north of Tara from the existing railway lines, and a railway from Obdorsk on the lower reaches of the River-Obi to a port on the Arctic Ocean, thereby providing an ice-free summer outlet by way of the northern route for the products of the Siberian plains.

Supplies required for railway construction. Some of the railway lines included in the programme outlined above are to be built by the Government, while concessions are to be granted for the construction of others. These are details which have yet to be fully worked out. By law, the parties constructing these lines will be required to purchase their supplies and equipment as far as possible within the Russian Empire. It is evident, however, that it will be impossible for Russian firms to supply all of the materials and equipment necessary for the building of these railways, especially when the ambitious railway construction programme for European Russia is also taken into consideration. The importation from foreign countries of a large amount of the materials and equipment required will therefore probably be necessary.

Additional cold storage facilities. Supplementing the decision of the Government to prosecute vigorously the construction of the railways most urgently required for the development of Western Siberia, there has been a realisation of the need for better organisation in the handling of the products of the country. This is to find

expression in two directions, viz. the provision of additional cold storage plant and of grain elevators.

Refrigeration is bound to play an increasingly important part in the utilisation of the resources of Siberia. For transporting Siberian butter some 1300 ice cars have been required as well as ice-house reservoirs along the line of the railway. A large refrigerating plant has been constructed by a private company at Kurgan.

At a meeting of the Commission on Cold Storage at Ekaterinburg it was decided to submit to the Duma a plan for the establishment of cold storage plant at central points throughout Western Siberia, and for the provision of more refrigerating cars on the railways. The details of this plan have yet to be worked out, but it may be taken for granted that important developments regarding additional cold storage facilities will take place in the near future.

Grain elevators. In order better to organise the movement of grain crops and at the same time to afford peasants some assistance in warehousing and disposing of grain, the Russian Government commenced before the war to build a series of eighty-four grain elevators in the south-east provinces of European Russia. It has now been decided to extend this scheme to other parts of the empire, including Western Siberia. Already several points have been decided upon as suitable centres for the location of grain elevators, and the next few years should see further extensions along the lines indicated. Concessions will probably be granted for the building of these elevators by the Imperial State Bank, which is responsible for the carrying out of the details of the scheme.

Possibilities for future trade. The provision of adequate railway, cold storage and grain elevator facilities as outlined above should bring about a new era in Western Siberia. More advanced methods will be introduced for the exploitation of the mineral, forest and fishery resources

of the country. Thus it is expected that the yield of gold from Siberia will soon be doubled, while it has been estimated that during each of the first seven years as much as 960,000 tons of iron could be produced. With this development there will undoubtedly be established in time specialised industries catering for the growing demand of the local population for manufactured goods. The equipment for these factories will in most cases have to be imported from foreign countries. Developments may also be expected to take place in the export of agricultural products which have hitherto been shipped in limited quantities or not at all. This, together with the opening up of new areas for settlement, should result in the renewal on an even larger scale of the emigration from European Russia which has been interrupted by the war. An increase in the agricultural population of Siberia may, therefore, be anticipated, in addition to a further growth in the population of the towns and the mining districts. Moreover, the purchasing power of the individual peasant should also be greater after the war. Owing to the opportunities afforded by the cultivation of a new land, the Siberian peasants are relatively more progressive and manifest a greater desire to improve their conditions of living than the peasantry of European Russia. In this connection it is difficult to overestimate the influence of the vodka prohibition on the welfare of the agricultural population. Firms distributing articles formerly considered luxuries by the peasants already report great increases in their sales, and attribute this to the increase of individual savings as a result of the prohibition of spirits. Western Siberia should, therefore, offer a wide and growing market for all sorts of manufactured articles, which, since the country is practically without manufacturing industries, must in most cases be imported from abroad.

Present trade situation. The above information would seem to warrant careful study of the openings in Western Siberia for the sale of goods. Before the war the commerce of Siberia was, in large measure, dominated by German influences and, with the possible exception of agricultural machinery, German goods constituted the bulk of the supplies entering the territory. The question of establishing connections with alternative sources of supply is, therefore, occupying the attention of importers. Owing to the difficulties of transport, stocks of all kinds of imported goods are almost depleted and prices in every case are very high. A considerable amount of Japanese and Swedish products is being shipped to Siberia to take advantage of this situation. These countries are making every effort to get their goods known and connections established so that their firms will be in a strong position when normal trade is once more resumed. The execution of a few trial orders—not necessarily for large amounts—under the present difficult conditions would go far towards securing a permanent connection in the market.

A large share of the trade of Western Siberia is controlled by European Russian houses, who purchase in Moscow the foreign supplies required for their branches in the various centres. There is a noticeable tendency, however, for the establishment of local independent firms ordering their requirements of foreign goods direct. For most lines of trade foreign firms are therefore advised to establish an agency for this territory apart from their representation for European Russia. For this purpose there are now available many of the former agents of German houses who are anxious to secure the representation of manufacturers able to supply articles similar to those hitherto imported from enemy countries.

XVI

AGRICULTURAL MACHINERY, CHEMICALS, & GENERAL MERCHANDISE

Scarcity of British goods—Pianos—Stationery and books—Cutlery—Carpets—Food products—Medicines—Tobacco—Chemists' supplies—The Chemical industry—Cement—Beeswax—Agricultural machinery—No tariff on agricultural machinery—Machinery—Glass and optical instruments—Saws—Furniture—Tools—Firebricks—Clothing—Cycles—Photographic supplies—Paints and colours—China-ware—Castings—Jewellery—Umbrellas—Lace and embroidery—Perfumery.

IN one of the bigger Russian cities there is a large shop where almost every kind of article can be purchased, except food and clothing. It is not a department store, but a mixture of ironmongery, toys, cutlery, glass, china, stationery, fancy goods, haberdashery and, in fact, almost every conceivable article of these kinds. I was surprised to find very little British goods in the shop. The safety razors, inkstands, ornaments, fountain-pens, bags, smokers' sets, were nearly all German. The proprietor said, "I want to buy English goods, but nobody ever comes here with any. There isn't a novelty brought out but what I have a good sale for, but it is only on the rare occasions that I am able to go to England that I see or hear of anything made in that country. Most of what few English goods I have been able to purchase comes through German agents."

In Moscow, in the big department store of Muir and Merrilees, referred to elsewhere, with a turnover running into millions a year, the large percentage of goods were German, although the firm is of Scotch origin, and its

present directors are Englishmen. They have a buying branch in this country, but Mr. Wm. Cazelet, the managing director, told me that they could handle very much more British manufactures if English firms made more intelligent efforts to get business and were properly represented. To enumerate the articles that can be sold in Russia is almost to exhaust the vocabulary of trade names. Every consular report gives them by the score. No field is freer from competition or offers such abundant opportunity for business as what, for want of a better term, may be called general merchandise. A few manufacturers have made some little effort to do business, but it has been confined to the larger cities and generally without any system. The towns enumerated on another page all have many excellent shops, and if it is not feasible to call upon them, all the ground can be covered by reliable agents in different districts, though these will necessarily be a different class than the larger firms handling machinery, etc. Probably a good plan would be to send out small consignments to responsible agents, who could readily sell them for cash, and in this way find out the most saleable lines.

The piano trade is one in which Russia offers splendid opportunities. The statistics here given are very illuminating.

IMPORTS IN 1913

Grand Pianos

Total	1,002	Pianos, value £86,991
of which		
From Germany . . .	942	"
,, Austria . . .	41	"
,, U. Kingdom. . .	9	"

Upright Pianos

Total	4,679	Pianos, value £209,039
of which		
From Germany . . .	4,127	"
,, Austria . . .	504	"
,, U. Kingdom. . .	22	"

Practically the whole of this trade will come to England or go to America, and it will depend in large measure upon which country gets its connections first established. As indicating the prejudice against Germany, it may be stated that during the early days of the war, the premises of the leading piano dealer in Moscow were completely gutted, and a bonfire of the German pianos made in the street.

There is not much demand for the cheaper grades of paper such as used in newspapers, but there will be for all the better qualities of writing and book papers. The study of the English language which is now going on in Russia will afford opportunities for the sale of English books and publications to an extent hitherto unknown. More particularly will technical and text-books be required, the Russians having to depend heretofore on German publications.

The Russian, especially of the better class, seldom shaves himself, and the demand for razors has therefore been limited. He is, however, taking rapidly to the safety razor, and a market has already been established in this line, which has excellent prospects. The cheaper grades of cutlery, knives, forks, spoons, etc., are extensively manufactured in the country, but there are good openings for the better grades. Lead pencils and pens are almost entirely imported. Germany has had the trade in the former, but British pens are well known in Russia. A peculiar feature is the demand for what is known as No. 86. Some manufacturers stamp them 98, which gives the same impression when reversed.

Carpets have comparatively little sale in Russia, especially those sold by the yard. Nearly all used in Russia are rugs and squares, and most of these are imported from Persia and the East, the Russian tariff, even with the most favoured nation clause, expressly providing that

Asia is excepted. There is, however, some little demand in the western provinces where European customs prevail.

Office appliances and filing systems other than ordinary furniture should have a good chance in Russia, but will require education. A good branch office in the three principal cities, in charge of a capable man, should do good.

Scientific instruments, optical supplies and photographic material are in demand all over Russia, and the supply is not equal to it.

In food products there is not much demand except for the higher qualities. Excellent biscuits, for instance, are made in Russia, and the duty on those imported is almost prohibitive. Nevertheless, the richer classes will pay almost any price for what they want, and a fair amount of English biscuits can find a market. The Russian has a sweet tooth, and I was somewhat surprised at the absence of jams, jellies, marmalade, etc., for which I should think there would be a demand, especially as it is becoming the vogue to have English things on the table.

Pharmaceutical preparations and patent medicines should have a good opportunity. One or two of the latter of domestic make have an enormous sale. There are many difficulties attached to their sale, and it is advisable that the whole business should be placed in the hands of a responsible Russian. Sanatogen had a good sale before the war, and its place is already being taken by the British Sanagen.

There is very little demand for English tobacco or cigarettes, and it is chiefly confined to the British colonies in the larger towns. Even these soon get out of the habit of smoking pipes and get accustomed to the Russian cigarette. There is, however, a good field for Havana cigars.

Paints, varnishes, enamels, etc., are required more especially in the better qualities, and the dry kinds of

paints. Most of the houses being built of wood makes the use of paint very general.

Among sporting requisites, tennis bats, balls, etc., are chiefly required. Golf is practically unknown in Russia. Revolvers, guns and shooting paraphernalia are in good demand.

In all kinds of haberdashery there is a good field ; such things as braces, garters, buckles, shoelaces, cheap jewellery having hitherto been largely supplied by Germany, though Japan has taken advantage of the opportunity to make considerable headway in these lines during the war.

The chemists' shops are considerable rivals to the doctors themselves. Not only do they put up prescriptions, but it is also quite an ordinary circumstance to prescribe. Little or no business is done in perfumery and fancy goods, and proprietary preparations are comparatively rare. The chemist establishment of Verreins at Moscow is probably the largest of the kind in the world. Scores of qualified chemists in white smocks are in attendance in a dozen or more rooms, and almost every chemical and drug known to science can be purchased here. The firm employs four hundred and fifty workpeople and two hundred and fifty qualified chemists, was founded about two hundred years ago, and its average output of prescriptions alone exceeds half a million. They have also a number of proprietary articles of their own make, and deal in those of other countries, insisting, however, when possible, on their own labels. Chemists' shops in Russia do not make any window display.

The war has compelled Russia to develop her own chemical industry, and a certain number of works have already been erected, while many are projected. A super-phosphate factory has been erected on the railway between the stations Molovilich-Levshino, by the Zemstvo of Perm and Viatka. The capital invested in this undertaking is

1,000,000 roubles. A celluloid factory has been erected at Kalino on the Perm railway. The Nijegorodski Zemstvo has built a formalin factory at Vetluga. A technical laboratory for the production of lanoline, naphthaline, etc., has been built in Rostov.

A large company has been formed in Moscow, with a capital of 4,000,000 roubles, for the erection of a coke-benzol factory. In Tomsk a large chemical factory is projected for the production of medicaments. A factory producing tanning materials in Kiev, having been sequestered, is now being administered by the Zemski Soyuz (i.e. Union of Zemstvos), and the output of tanning materials has been largely increased. Another tanning material factory is projected at Maikop in the Caucasus.

Prior to the war, the production of fertilisers in Russia was largely dependent on raw materials supplied by Germany. A great shortage of machinery for the use of artificial manure factories is badly felt, and this hinders the more rapid development of the industry. The manufacture of sulphuric acid appears to be progressing fairly well, several new works having been erected in the Volga region, in the Donetz basin, in the Caucasus and in the Urals.

The supply of Russian pyrites is increasing, but other raw material used by sulphuric acid works are in short supply. New saltpetre deposits have been discovered in the Altai districts (Siberia) and are being studied with a view to their exploitation. New deposits of pyrites have been discovered near the railway station Kinel in the Boguruslan district, and near Samara there are said to be deposits of sulphur.

About two years ago a group of representative men in the Russian cement trade drew up the statutes of a proposed association for the development of the Portland cement industry. These statutes have now received

Government approval. The industry has grown enormously in Russia of late years, but largely under foreign control, emancipation from which is one of the aims of the new combination. Hitherto all the working mechanism and the machinery oils for the Russian cement works were imported. The promoters of the new concern protest that the whole equipment of such works, and the lubricating oil too, can be furnished by Russia, and every encouragement will now be given to the home producer. The demand for the mechanical equipment of Russia's Portland cement works is expected to be colossal when the war closes, for the constructional work to be done is incalculable.

It is clear to students of Russian industries that the country will be capable one day of supplying its own Portland cement works machinery. But much more will require reinforcing after the war than cement works. The existing Russian machine shops will be altogether incapable of undertaking the work that will be offered. The foreign machine builder will undoubtedly be called in to lend a hand.

Beeswax is important in the manufacture of church candles, and in war-time the demands have greatly increased.

The trade in wax is a staple Russian trade. In times past Russia has even exported large quantities, when bee-keeping was extensive and profitable. The *Russkaya Praeda* points out that the princes used to accept honey in lieu of taxes. But now Russia is compelled to purchase abroad.

In peace-time the church candle factories used to manufacture nearly ten thousand tons of candles yearly. The Russian wax supply, however, does not exceed seven thousand tons, and it was therefore necessary to buy abroad at least three thousand tons.

Before the war foreign wax for the Russian Church

was supplied by a German firm (Hamburg), the so-called Luneburg Wax Bleaching Company. Its competitors in Russia were the firms of Weltz in Petrograd and Kaptelin in Moscow; but to keep the prices up the three firms formed a syndicate.

The British Vice-Consul at Berdiansk writes that the manufacture of agricultural machinery and implements was a staple industry in that town and its neighbourhood up to the outbreak of the war, but that it has now temporarily ceased. About 2000 reaping machines, 1000 seeders, about 1000 thrashers, and a few thousand ploughs will probably be all that have been manufactured since the war began, and these from materials and reserve parts which the works happened to have in stock, as no iron, steel or other metals were allowed to be used for making anything but war materials, upon which, at the time of writing, all the factories were working at top speed.

After the war these factories must return to the production of agricultural machinery, the demand for which will be enormous. It is estimated that since the commencement of the war quite 50 per cent. of the machinery in the hands of the farmers has worn out and become useless. This applies especially to ploughs, harvesters and thrashers, and the cause is partly due to the extra work to which they have been put, and partly to their use by inexperienced people.

A number of ploughs have been bought in Sweden by the Russian Ministry of Agriculture, and mowing, reaping and binding machines have been ordered from the United States, Canada and Sweden for future delivery. The last-mentioned country, however, though geographically well situated for engaging in this trade, lacks facilities for producing the large quantity necessary, while trade in American goods is at present handicapped by the fact that it can only be conducted via Archangel or Vladivostok.

Prior to the war, Germany and Austria were the principal competitors of United Kingdom makers of steam-thrashing machines and petroleum engines. After the war United Kingdom manufacturers will have an excellent opportunity of obtaining a larger share in the trade of these goods, but competition from American manufacturers of a cheaper type of thrashing machine may be anticipated.

Food preparing and other small machinery of United Kingdom manufacture will also find a ready market. In mowers, reapers and horse rakes United Kingdom goods are almost out of the running, but Canadian manufacturers, their representative says, may count on getting a good share of this trade, as Canadian harvesting machinery is more adapted to Russian conditions.

Excellent seeders and ploughs are now made in Russia, and in a short time competition with native makers will be more and more difficult, but all makers will find ready purchasers immediately after the war.

The agricultural machinery industry in Russia has never had the benefit of a protective tariff. Foreign agricultural implements and machinery have either been imported duty free, or the duty has been a nominal one, not covering the duty on the raw material which, up till fifteen years ago, had mostly to be imported by manufacturers in Russia. In spite of this, the industry has made progress, and is able to supply half the machinery required by Russian farmers. Many types of implements have originated with Russian makers, and have been imitated by foreign firms, but with little success. The Ministry of Agriculture is now quite alive to the importance of this industry, and it is expected that measures will soon be taken to assist and encourage Russian makers of agricultural machinery.

There is a large field open to the British manufacturer in the production of light agricultural machinery, as the

American factories devote themselves to large types. Smaller implements will find a ready sale if they are of familiar shape. A very large extension of the use of internal-combustion motors may be looked for. They must be fool-proof, for skilled mechanics of the modern type are almost non-existent in many parts of Russia, and they must be adapted for burning crude Russian petroleum, which has the advantage over the American oil in leaving almost no mineral residue when burnt. The demand for machine tools is almost illimitable, and we here ought to be able to supply it.

As to electric motors and dynamos, the trade in Russia was largely supplied by home manufactories run by German companies. Since the war they have been taken over in great part, and there is no intention of letting them out of Russian hands. Light high-speed motors would seem to find a ready sale. Electric lamps of all kinds are in great demand. Most imported electrical apparatus comes in as spare parts and is assembled in Russia.

The following figures for some aspects of the machinery trade of Russia in 1913 are official, and give some hints as to the possible future direction of our trade :

	Home production	Total imports	German exports
Dynamo, electric telephone and telegraph apparatus .	16,865,000	10,886,000	9,522,000
Steam engines . . .	1,293,000	3,895,000	2,967,000
Planing machines . . .	1,209,000	1,555,000	1,306,000
Textile machinery . . .	4,521,000	1,361,000	244,000
Typographic machinery . . .	38,000	1,235,000	1,108,000
Milling machinery . . .	3,226,000	978,000	787,000
Miscellaneous instruments and tools	638,000	5,169,000	4,419,000
Lathes	2,813,000	12,788,000	10,685,000

The mobilisation of Russian industries in 1915 affected the glass industry, which was called upon to produce for the military authorities goods that were formerly

imported from abroad, e.g. mirrors, lenses, and other supplies for optical instruments, thermometer tubing, etc. The production of thermometers in Russia is a new industry, these being formerly imported from Germany. Fair progress was also made in the manufacture of insulating glasses for electrical purposes. Some difficulties were experienced in making optical glasses, but it is hoped that these will gradually be overcome.

The prices of optical and other instruments have gone up by some 100 per cent. There is a great demand for microscopes, scientific apparatus, field-glasses, etc. Russian industry in these products is undeveloped, as there are no specialists or experienced hands available. Hospitals placed large orders with glass works for the production of articles for medical and surgical use.

As practically no saws are manufactured in Russia, the country is obliged to import all required, and the article being one in large demand, there is a favourable opportunity for enterprising manufacturers to place their goods on the market. Before the war Russia received her supplies of saws approximately as follows : 40 per cent. from Germany, 25 per cent. from France, 20 per cent. from England, 10 per cent. from the United States, 5 per cent. from other countries.

The saws mostly in demand in Russia are as follows : Circular and band saws (ribbon saws), machine driven for sawing wood, with prices about 19s. 9d. for circular saw 20 in. diameter, and 4½d. per foot for band saws 1 in. broad. Circular and band saws for sawing metals are also required. Prices are as follows : £1 12s. for 20 in. diameter, 3 mm. broad and 9 mm. thick.

There is also a large demand, which hitherto has been supplied exclusively by Germany and France, for potato-cutting saws, used to cut or saw potatoes for the making of vodka, starch, etc. Some thirty or forty of these are

fixed to a revolving drum worked by a motor. The usual saw used for this purpose (mainly starch-making) is 13 mm. broad and 29 cm. long, price 13s. per 100. All the above prices are retail, warehouse Moscow, duty paid.

In his general remarks in his report for 1912, the Consul at Vladivostok writes : "The trade in furniture is capable of development, and to it might be added sanitary ware and toilet accessories, for which, with the improved conditions of living, there should be a respectable opening. Central heating apparatus is more and more used, but in this article it would be hard to compete with the Germans, who have a monopoly of the import and erection. Carpets and rugs, curtains and furnishing materials from the United Kingdom should be able to compete here on account of their recognised quality, though the demand would not be large."

The Vice-Consul at Kharkov reported in May, 1914 : "During my recent visit to Moscow, I heard of an interesting method of selling furniture adopted by a German manufacturer. His agent, an employee of the firm, is both architect and designer, and offers his services for every kind of artistic and decorative work. This includes designing furniture and house equipment generally, as also wallpapers and stucco ceilings suitable for house-owners and retail shops. The firm supplies him with drawings and even complete sets of model furniture on a miniature scale, and he adapts these to the varying circumstances. The firm sends German workmen for fitting the furniture and wainscoting, also upholsterers and workers in plaster, and hands over the rooms quite ready for use. I am told that the firm is successful in its work, the designs and workmanship being excellent and the prices comparing favourably with those of Russian first-class makers. The agent's circle is spreading, and he is now extending his work to St. Petersburg.

“ Through art journals, more particularly German ones, taking up the subject of house decorating, and through foreign architects insisting on specially designed furniture, the better-class house-owners realise that it is better to engage designers and spend more money on the decoration of their homes than formerly. As yet, this new mode of furnishing is confined to the principal cities, St. Petersburg, Moscow, and perhaps Warsaw, but work could undoubtedly be found on the big estates and in provincial towns.

“ Before exporting furniture and upholstery material to Russia, the Russian customs tariff should be carefully considered. Thus, for instance, inland wood-carving of all kinds pays a heavy duty and should be forwarded separate from the furniture. Silk materials, or materials interwoven with silk, are excluded through the prohibitive tariff. Boards at the back of cupboards and unvarnished on the other side pay a lower duty, and can occasionally be packed separately with advantage.

“ The total furniture imports are not clearly shown in the statistics, but the approximate amount is £550,000, per paragraphs 61-2 and 61-3 b of the tariff.”

The Austrian Vice-Consul at St. Petersburg reports in 1912: “ The value of the imports of joinery and turnery amounted to 6·5 million roubles, the value of the imports from Austria-Hungary being 266,000 roubles. Two important Austrian bentwood factories have established branches in Russia, which dispose of large quantities of this furniture throughout the country. German manufacturers also supply fair quantities of furniture, fittings and upholstery leather.”

The Board of Trade pamphlet on implements and tools quotes a recent report from the Vice-Consul at Omsk as follows: “ Tools, knives, etc. There are openings in Siberia for tools of all kinds, knives and other small

goods of iron and steel, provided that manufacturers are prepared to meet the requirements of the Siberian market, and further, to compete in the matter of prices. At present the business in tools is chiefly in Russian-made articles, and what trade is done in foreign tools is almost entirely in the hands of German firms dealing in German goods. The German firms meet the requirements of the Siberian user, not putting articles on the market for which there is little or no use."

That there is a very large opening for British enterprise in Russia in this line is evident from the figures published by the Board of Trade. In 1912, Germany sent into Russia coarse knives and shears of all sorts to the value of £22,000 ; fine knives and scissors to the value of £11,000, against which the total British export in 1913 of cutlery into Russia was only £2,000. This wretched figure is easily surpassed even by Austria-Hungary, which exported in the same year £6400 worth.

The following is an extract from an American Special Consular report : " While America has done exceptionally well in the introduction of agricultural machinery and large implements, it has failed to interest Russian dealers as it should in small implements, the very articles in which it excels. The German and English were the pioneers, and through energetic measures, coupled with exemplary business methods, they have managed to hold the leading position.

" Post-hole diggers are furnished by America and Germany, the prices vary from 30 to 85 dollars per dozen. Forks are made in large numbers in Russia, but they are also imported from America, England and France. They range in price, according to size, from \$1.90 each to \$11.25 per dozen. There is a great demand for forks in beet culture and in digging potatoes. Hoes come principally from England, and sell for 25 cents to \$1 apiece.

Sprayers are furnished by America, Germany and England, the latter appearing to control the trade. Prices vary according to size. Forges, which are in great demand, are made principally in Russia, but America has been able to get a start. They are disposed of retail for \$14.25 to \$30.75. Rakes are a profitable article of export for America, though the Germans are doing well, also the Swedes. The American make handled in Moscow sells for \$5.20 a dozen, or about 57 cents each. The German makes are much cheaper. Pruning knives are in demand. Russia and Germany fill the want at prices ranging from 37½ cents to \$1 each. The American knife comes much higher, the retail price varying from \$1 to \$2.50. In shears the French lead, with Germany second. American shears retail at \$6 a dozen for the 7-inch length and \$6.90 for the 9-inch length. The American sickles retail at 50 cents each, and the English sickles are cheaper. American lawn-mowers come at \$5.75 to \$10, according to size."

The Consul at Odessa reports that: "Russian firebrick manufacturers were again unable to meet the demand, and several large orders for firebricks for the construction of coke-ovens were placed in Germany, and one firebrick factory received 1,270 tons of these bricks from Glasgow for the rebuilding of their kilns. Silica bricks for steel furnaces were received, as hitherto, from Germany. British manufacturers ought to be able to compete in this article."

The Board of Trade pamphlet, "Competition with Germany, etc. etc.," "Fire-proof Bricks, Retorts, Crucibles, etc.," contains some interesting extracts from Consular reports in this connection: "The French Consul at St. Petersburg in his report for the year 1911 calls attention to the continuous increase in the importation of firebricks. He places the total value of the imports in

1911 at £157,797. Of this quantity Germany supplied the largest share, amounting to 81,018 tons, as against 2027 tons from Great Britain. H.M. Consul at Helsingfors, in a despatch written in August, 1914, remarked that large quantities of firebricks are imported from Germany. He points out that there are no factories for the production of firebricks in Finland, consequently all supplies were to be imported from abroad. He adds that if Scottish firms were to quote acceptable prices, there would be an opening for their products in Finland. H.M. Consul at Batoum, in a despatch written in February, 1914, drew attention to the efforts of certain German manufacturers of firebricks to capture the market in the Caucasus region. It appears that quantities of firebricks of German manufacture were shipped from a German port to Batoum, marked in such a way as to lead purchasers to believe that they were bricks of a well-known Scottish make. This Scottish make of firebrick is in constant demand in the Caucasus district, and British manufacturers may be interested in the German attempt to secure a footing in this market."

The British Vice-Consul at Mariupol, in his report for 1911, stated : "Local firebrick manufacturers were overrun with orders, and were obliged to refuse contracts which went abroad, principally to Germany. The imports in 1911 reached 12,023 tons, as compared with 1850 tons in 1910. This quantity was composed of about 2000 tons of silica bricks, and the balance of ordinary firebricks for the construction of coke-ovens and repairs to blast furnaces. British brick manufacturers only participated to the extent of 2 per cent. of the quantity imported.

Reporting for the year 1913, the Consul at Baku states that : "Marked activity was noticed in the building trade. The demand for a better-class house with good fittings and accommodation was great. Porcelain sani-

tary fittings used are almost entirely manufactured in Russia, but nearly all bear English lettering, such as 'Best Sanitary Ware,' 'Manufacturers of Sanitary Fittings,' 'Trade Mark,' etc. Valves, drainage pipes and water fittings, bath-heaters, modern doors and window fittings, and electric chandeliers mostly come from Germany; locks, hooks and carpenters' tools of all kinds are imported from the United States; and lifts and central heating appliances are furnished by Germany."

The British Consul at Odessa reports: "Articles of apparel, especially for men. There is already in the market a certain amount of British haberdashery, but the sale might be increased. A big price is paid locally for clothes, and good cloth and cut are much in demand. Suits are anything from 50 to 100 per cent. dearer than in the United Kingdom. Ready-made clothes would probably not stand the import duty, but the duty on cloth is less high. If a British firm of clothiers established a good London cutter here there ought to be a good profit made, once the business was properly started. The risks of this business are lessened by the Russian custom of taking about one-third of the cost when the order is given."

And the Consul at Baku reports: "Haberdashery, hosiery, clothes and textiles. An increased demand for British wearing apparel, which happened to be in fashion, was noticeable in 1913. Hats bearing a British mark sell well. British gloves and woollen goods, hosiery, ties, etc., find a ready market. The better class of serges for clothing for men and women, veils and the highest grade of cotton goods are often inquired for. Scarcely a demand for the ordinary class of foreign cotton goods exists. These commodities are supplied by Russian factories. Imported ready-made clothing, overcoats, etc., are sent from Germany. Boots and shoes in large quanti-

ties are imported from Germany and Austria-Hungary, and find a ready sale at Baku. British-made boots, made to suit the Russian taste, sell well. At present, the American short-toed boots are much in fashion.

“In underwear the peasantry and the majority of the city people use ‘cut wares’ only, that is, cotton or low-priced linen bought by the yard, cut and made into undergarments. Knitted goods are worn only by the wealthy and official classes and foreigners. The demand is supplied by manufacturers in the Baltic provinces and Poland. Their goods are serviceable and satisfactory, and compare favourably with imported articles from Germany, France, Belgium, Austria and England, both in quality and in the style of the garments” (Board of Trade Memorandum).

An Austrian Consul has recently reported that the value of the imports of men’s clothing in 1912 amounted to 2,600,000 r., the greater part coming from Germany.

The Consul at Helsingfors reports that there is good room for increase in the exportation of British ready-made clothing into Finland, where German clothes are chiefly sold, any British goods finding their way there through Germany.

“Local prices for British ready-made suits, overcoats, etc., are extremely high, owing not merely to the import duty, which is considerable, but also to the commission which accumulates through the fact that these British goods are received from Germany, where they are purchased for the Finnish market by dealers from Finland. The British goods, however, are popular and held in high repute.”

The Commercial Attaché for Russia recently wrote with reference to openings in Poland for British-made cotton hosiery, stockings, socks, etc.: “Hosiery and underwear are imported from Germany in large quantities, and, to a certain extent, from France and England,

and are sold on the spot and exported by local firms to Russia proper. Since last year, when the boycott of German goods began, a large number of travellers from Austria and Bohemia have visited Warsaw, and as their goods are not inferior in quality, they have succeeded in getting large orders.

“ Some firms have already started business with England, and they maintain there would be a good opening here for English articles, if the price and conditions of payment were the same as those offered by German firms. English goods are considered to be the best, and, on account of this, higher prices are often obtainable.

“ The following articles are imported : Gentlemen’s vests, drawers, socks (made of wool, fil d’Ecosse and fil de Perse), gentlemen’s and ladies’ gloves (made of wool, silk and fil d’Ecosse), ladies’ stockings (made of silk, etc.), woollen hose, jerseys, caps, wool, hoods. All these articles are bought from Germany on credit from six to eight months, and the representatives of the different German houses visit Warsaw every year at the beginning of the summer and winter seasons. There would be a good opening for British firms, but it is essential that the representatives of the firms desirous to start business should visit Warsaw ; it would also be necessary to give credit, and a knowledge of German is indispensable. Some merchants complain of a rather arbitrary way of handling matters by English firms as compared with German merchants, who try more to satisfy and adapt themselves to the local taste and requirements of the buyers.”

Cycles. The Board of Trade Memorandum is interesting and worth quoting in full : “ His Majesty’s Consul at Moscow in his trade report for 1911 states : ‘ Bicycles are chiefly of German manufacture, or assembled in Russia from German or British parts, and the trade is an increasing one, but I am glad to be able to state that

during the last couple of years more cycles of British manufacture are to be seen, which from accounts received give general satisfaction, and I feel convinced that if British firms would give credit to merchants here, a greatly increased business in this article could be done.'

"In his report for 1912, one of the Consuls states: 'The trade in cycles is an ever-increasing one, and although the majority of machines are of German origin, or put together in Russia from British or German parts, British cycles are to be seen on the market in increasing quantities, and as the latter give satisfaction to the purchasers, I am of the opinion that a greatly increased business could be done with these machines if British manufacturers would meet the merchants here on the credit question, which is at the present moment the chief drawback, as the German manufacturers will give a credit of from six to nine months from date of despatch, while British firms require cash payments against shipping documents. It should also be taken into consideration that a heavy duty, amounting to over £3, is levied on every cycle of foreign manufacture entering Russia.'

"According to Austrian Consular reports, bicycles were imported in Russia in the year 1911 to the value of approximately £146,000; most of the imports were drawn from Germany, the United Kingdom contributing relatively small quantities. There were also large imports of cycle accessories, and of parts and raw material for the use of cycle manufacturers in Russia. On account of the bad condition of the roads, even in the cities, and the severity of the winters, the cycle as a means of travel is scarcely likely to gain in popularity.

"The Austrian Consul at Kieff mentions in his report for 1912 that imports of cycles into his district are chiefly of German and British origin.

"The Austrian Consul at Moscow states that in spite

of the high import duties, and a considerable output on the part of Russian manufacturers, the imports of cycles from the United Kingdom and Germany continue to increase. The well-known makes find a ready sale at good prices, but it is difficult to introduce unknown machines. For Russian roads bicycles must be strongly built, but must not have an unwieldy appearance. The price of a machine adapted to Russian requirements, with free-wheel, nickel rims, etc., is about £4 5s. free at factory.

“A report by the Austrian Consul-General at Odessa mentions that bicycles and parts are imported chiefly from Germany and Austria.

“A French Consular report on the trade of Russia in 1911 states that the value of the imports of cycles in that year amounted to 1,447,912 r., a considerable advance on the figures for the preceding years, which averaged from 800,000 to 900,000 r.”

The British Vice-Consul at Moscow states that nothing in the photographic line is supplied by Great Britain to Russia, no offers are forthcoming from British firms, and no commercial travellers visit the town, and no samples of British goods are received. He continues with the advice that British firms wishing to do business direct should quote prices in Russian currency and free at Tula ; if they quote subject to duty, questions may arise later, and the price may not work out as anticipated. One German firm at least has consented to quote prices free at Tula.

An Austrian Consul reports that most of the importation in this line comes from Germany, but that Russian firms are now making great progress with native manufacturers.

The British Trade Commissioner who visited Siberia was unable to find any British photographic goods there, all the appliances used being German. The largest Ger-

man camera was priced at £26 in a Tomsk shop, but there was a good demand for Kodaks from 12s. 6d. upwards.

The exportation of British colours to Russia is decreasing, the British trade being ousted by German, Swedish, Danish and French goods. Our Consul at Helsingfors thinks that in red earth, minium, colouring clays and white lead the United Kingdom could compete successfully with Germany and increase its trade.

Russia is now beginning to make its own white lead, and also many other colours, but chiefly of a medium or inferior quality ; the cost of transport and high duty make foreign high-class paints very expensive.

There is apparently a good opening on a somewhat smaller scale in South Russia, for the Vice-Consul at Novorossisk reports that colours, paints and varnishes could be advantageously sold in the Northern Caucasus, in such towns as Ekaterinodar, Stavropol and Armavir ; he states that almost all such material that was imported into Novorossisk came from Germany.

The Board of Trade quotes an Austrian Consular report as follows : " As regards china-ware, the chief articles of import are teacups and saucers, and dinner services with decorated borders. Light German china-ware is stated to find a large sale ; other goods in demand are china ornaments, fruit dishes and highly decorated gilt vases and plates for wall decoration. Crockery, principally plates and dishes with ornamental borders, cheap tea services, milk jugs, fruit dishes and plates, wall plates and cachepots are imported from Germany. There is a fair demand for flower vases and decorated ornaments from Northern Bohemia and Vienna. It is stated that English crockery finds only a small sale on account of the high price. In general there is a demand for all articles the manufacture of which demands skill, accuracy and taste."

The Consul at Odessa reports: "Sports requisites, too, might be exploited better, or at any rate, British firms might endeavour to get a larger share of the profits of this trade than at present. Roughly speaking, the local shops charge for such things as tennis balls, racquets, etc., as many roubles (2s. 1½d.) as they cost shillings in the United Kingdom. As the import duty is at present very low, there is no real reason for this."

Referring to petroleum lamps and stoves, the *Chamber of Commerce Journal* says that the Austro-Hungarian Consular correspondence (Vienna) advises that petroleum lamps find a ready market in the province of Rostov-on-Don, and German firms are doing excellent business in this article. Petroleum stoves are for the most part of Russian manufacture, and are sold to the peasants at very moderate prices: 90 kopecks to 2 roubles (1s. 10½d. to 4s. 3d.) for a stove of 7 kilos (15½ lbs.).

The Board of Trade reports on cast-iron goods (stoves, baths, etc.): "In a recent report the Belgian Consul at Kharkoff points to the opportunity of immediately placing great quantities of iron and steel castings in Russia. He describes the market in these products as capable of great expansion, and states that the local works are quite unable to supply the demand. It appears that on certain goods duties have been reduced with a view to encouraging their importation. The British Vice-Consul at Abo, in his report on the trade of that district in 1913 states that much of the trade which now finds its way into German hands might be diverted to the United Kingdom if only firms would send representatives regularly to Finland or appoint agents there. He states that boiler parts, consisting of plates, rolled and flanged to shape, and corrugated furnaces are in fair demand. At present these are all imported from Sweden or Germany, in sizes ranging from about 200 to 1850 square feet of heating surface. H.M.

Consul at Helsingfors, in his trade report for 1911, stated : The import of light castings from the United Kingdom increased considerably, that from Germany only slightly. The total import was greater also. Germany still contributes more of these articles than the United Kingdom, but the lead of the former country was considerably reduced in this respect in 1911."

In jewellery and trinkets the United Kingdom does a negligible business, only £200 worth, compared with £44,000 from Austria-Hungary, and no less than £139,250 worth from Germany.

An article in the *London Chamber of Commerce Journal* for January, 1914, says that the home industry produces articles of inferior quality, which are sold only among the lower classes. To develop business, prices must be adjusted to meet the competition of other countries, and an agent, supplied with a good stock of articles, should visit the principal towns. Price lists should be in the Russian language, and prices quoted in Russian currency, precautions which are usually omitted by British exporters. Payments are usually made as follows : Wholesale, at 90 days with discount ; retail, at six months against acceptance.

The Board of Trade memorandum on the subject of Gold and Silversmiths' Wares (including electro-plate) gives an extract from an American Consular report, which is worth quoting : "The peasant class in Russia, which forms 77 per cent. of the total population, still uses the wooden spoon. The people of this class cannot afford steel knives, and never have plated ware. The middle class use steel and plated ware, and the wealthy classes usually have sterling. Most of the steel and plated ware is manufactured in Warsaw, and very little is imported. Probably 90 per cent. of the people of Russia use the very cheapest grades of table ware, and only 10 per cent.

plated or silver ware. Silver-plated knives and forks may be purchased at reasonable prices. Those having no decoration sell for \$3·80 to \$6·50 a dozen (15s. 10d. to 27s.), those manufactured from foreign steel, and engraved, 17s. 8d. to 30s. 2d. a dozen, and those that have been pressed from one piece of steel and slightly decorated, 14s. 4d. to 31s. 3d. a dozen. These quotations are for the cheaper grades only, as they are the best sellers, and the only ones that can be profitably imported."

Viennese silver handles and fittings are preferred to German ones, on account of the better taste.

In marine chains, anchors and grapnels Great Britain has a slight advantage of Germany, but the total trade seems quite small at present, Great Britain exporting only £1,500 worth in 1913, against Germany's £1,300 worth in 1912; but in non-marine chains there is a better opening, Germany sending £10,400 worth compared with our £5,400 worth.

In 1912 Germany exported frames and parts of umbrellas and sunshades to Russia to the value of £27,200, and complete umbrellas and sunshades to the value of £2,250, while the gross British figure was only £300. There appears to be brisk trade in these articles in the Odessa district, but in Moscow there are several large local factories, so that only novelties are imported, chiefly of fancy patterns for ladies at from 25s. to 40s., and men's black silk umbrellas with natural wood handles selling at 15s. to 25s.

The total value of German imports of lace and embroidery into Russia for 1912 of all kinds was £97,700; the Austrian figure for 1913 was £3,000; the British figure was £44,400, to which we should add £2,200 for millinery. The total imports of tulle lace and embroidery into Russia surpassed £640,000 in 1911, in which Great Britain only took fourth place. The following is extracted from the

report for 1912 of the Consul at Warsaw: "Levers lace. At the time of the last tariff agreement between Germany and Russia, which came into operation in March, 1906, Germany had, owing to the rising lace industry at Plauen in Saxony, become a large exporter into Russia of heavy laces, and, consequently, no additional duty was imposed on laces. On the other hand, as no fine counts of yarn were spun in Germany, she did not object to the increase from 18 r. to 30 r. 50 k. per pound, which the Russian spinners obtained in the duty on imported yarns of counts above 80. As neither these counts nor the fine warps for bobbing yarns are made in Russia, manufacturers of Levers lace in that country are obliged to import all such yarns from the United Kingdom and France, against which countries they were enabled to compete in Lever laces, owing to the prevalence of lower wages in Russia.

"When, after the revolutionary movement of 1905-8, wages rose and the manufacturers in Russia found that the imported Lever laces were able to compete successfully, they petitioned the Russian Government to impose a higher duty on laces, or to lower the duty on yarns. The former course was impossible, owing to the agreement with Germany, and the latter was successfully opposed by the spinning interests.

"In order to meet the difficulty of the Lever lace manufacturers, a project is now being worked out by which the duty on the heavy German laces will remain stationary, but by fixing a standard of width and weight per, say, 12 yards, a graduated increasing duty on laces weighing less or containing greater length is proposed. This will hit Nottingham fine goods without damaging the heavier article imported from Germany.

"Plain net. The plain net tulle on which laces are embroidered was up to a year ago almost exclusively smuggled across the frontier from Germany, and the yearly

loss to the Imperial Exchequer was estimated at about £80,000. Thanks, however, to energetic means adopted by the Government, this evasion of the duty has been wholly stopped. Most of the tulle is of British origin, but some is produced by local manufacturers.

“ If the British firms enter the market they must work through a reliable agent, as the majority of the consumers are poor, small men, in no wise to be trusted, and the knowledge and presence of a local agent is therefore indispensable.”

The following is copied from the Board of Trade memorandum on the subject of Perfumery and Cosmetics : “ An Austrian Consular report from Petrograd for 1911 states that the development of local manufacture has confined the import trade in perfumery almost entirely to high-class goods which are not produced in Russia. Small quantities of face-paint, hair-dye and perfumes are supplied by Austria-Hungary. In his report for 1912 the Consul gives the value of the imports of perfumery and cosmetics as about £412,000. Germany is stated to be the most important source of supply, followed by France ; only very small quantities come from Austria.

“ The Austrian Consul-General at Odessa reports that no great effort has been made by foreign makers of perfumes, etc., to introduce their goods to that market, but that where the attempt has been made the results have been satisfactory.

“ According to a recent issue of the *London Chamber of Commerce Journal*, most of the perfumery sold at Tiflis comes from Russian manufactories. At the same time there is a supply of some importance from Germany and France, and to a less extent from England. The import trade in perfumery might readily be increased by firms sending capable travellers and choosing a representative well acquainted with the place.

"The *London Chamber of Commerce Journal* states, on the authority of the French Consul at Helsingfors, that the imports of perfumery to Finland comprise both fine and cheap goods. The articles finding a ready sale are toilet waters, vinegars, oils for the hair, brilliantine, cosmetics, dentifrice liquids, powders and pastes, and bottles of perfumes packed in fancy boxes at a moderate price. Bottles of assorted perfumes on gilt or silvered metal stands, two, three or four bottles, would also have a good chance of success, especially at the time of the Christmas and New Year festivals. These articles should be offered not only to perfumers, but also to buyers of fancy goods. The use of perfumery is not general amongst the people of Finland, and varies considerably amongst the classes and races. It is mostly in favour amongst the Russians. Scandinavians seem to look for antiseptic or hygienic properties in articles of toilet in preference to delicacy of perfume. According to the trade statistics, essential oils and concentrated essences comprise more than a fifth of the total imports, and are supplied for the most part by Germany. A characteristic of trade with merchants in Finland is the custom of not fixing a definite date of payment. This is the principal reason for utilising German commission agents. Three or four months' credit is often given without acceptance."

XVII

TEXTILES AND TEXTILE MACHINERY

Cotton industry—Textile machinery—Silk industry—Woollen industry—
Flax—Hemp—Jute.

TN considering the possibilities of British trade with Russia in textiles, account must be taken of Russia's own manufacturing developments. Russia is one of the largest consumers of cotton goods in the world, vieing with China and India in this class of clothing, notwithstanding its colder climate. The hundreds of thousands of peasants live largely an indoor life in the winter, and in their well-heated rooms can wear in comfort the same cotton garments as they wear in the fields in summer. But in no other manufacturing industry has Russia made more rapid strides than in the manufacture of cotton goods. It has the advantage of being fairly self-contained in regard to raw material, producing some millions and a half of bales of cotton annually, while Persia and other neighbouring Asiatic countries supply the balance of her requirements. The home consumption is so enormous that it has added to the stimulus of home production, while the Moscow and other manufacturers have taken care that their interests in the matter of tariff duties have been well looked after. As a result its cotton industry ranks third in Europe and fourth in the world, Germany being second with 11,000,000, and while Russia has something under 10,000,000 spindles and 250,000 looms (counting those of Poland and Finland), Great Britain has some

60,000,000 spindles and 900,000 looms, and the United States about 32,000,000 spindles. A report just issued by the Russian Commission for the Supply of Raw Materials to Cotton Works states that the average number of spindles running during the past year was 8,122,033, the distribution being as follows :

	No. works	No. spindles
Moscow district	73	5,999,660
Petrograd-Baltic district	20	1,802,399
Finland	6	226,158
Other districts	4	93,816

The cotton manufacturers of Russia, and more especially Moscow, are the millionaire merchant princes of the country, and some of their cotton mills in construction and equipment are the finest in the world. Four of these mills are in the hands of one family, the Morosovs, who employ between them over 50,000 workpeople. In the one visited at Orechevo, where finished cotton goods are manufactured, including spinning, weaving, bleaching, dyeing, mercerising and printing, over 15,000 people are employed and 22,000 housed. In the colony are two hospitals, seven doctors (two of them women); two schools with more than forty teachers, a crèche where children are looked after, a theatre accommodating 1500, three bands, athletic grounds, including a football field, billiard tables, etc., all of which are absolutely free to the entire population. Food and clothing are supplied by stores run by a committee of the workers, the purchases being made by the firm on their behalf. In this, too, as in very many other cases, the general manager is an Englishman. The Kraengolm mill at Narva, about 100 miles from Petrograd, has a staff of thirty Englishmen, and a hospital that cost £80,000.

In the cheaper grades of cotton goods, it is impossible for the British manufacturer to compete with the local

industry, and even in the higher grades, in which a fair business is now being done, the tendency is for the Russian manufacturer to gradually meet even this competition. A considerable export trade in brightly-coloured cotton goods is already being done by Russia to Persia, China and other Asiatic countries, several of the Moscow manufacturers having branches and depôts in those countries, and labelling the goods in their languages. Nevertheless, there will for some time be a good demand for the finer counts and especially for garments.

In 1913, women's and girls' clothing of silk, wool and cotton were sent to Russia by Germany to the value of £104,000, and by Austria £17,000. The only British figure published by the Board of Trade is in respect of wool clothing, £6,300, showing a large balance in favour of the enemy. Big figures are also reached in cotton yarns. Unbleached, we held the preponderance of trade, £256,400, against £25,850 from Germany, and £22,060 from Austria. But an entirely different state of affairs is shown by the bleached and dyed cotton yarns. Here the British contribution was £5,100, against Germany's £67,600, and Austria's £15,545. The British figures for cotton piece goods are not given, but Germany's total is £26,250, and Austria's £9,645. In cotton prints, Germany sent to Russia nearly eight times the value of the British goods—£64,000, compared with £8,500—while in cotton velvets and plashes the enemies' figures are £90,650 and £4,940, the British total not being given. Britain supplied one-third more linen manufactures—£36,400 as against £14,900 Germany and £9,700 Austria ; but we were beaten hollow in silk manufactures (piece goods, ribbons, etc.). The figures make lamentable reading : Great Britain, £11,500 ; Germany, £238,350 ; Austria, £16,150. In all these lines there are great possibilities for British manufacturers.

It is, however, in textile machinery, and possibly dyes,

that the greatest opportunities will be afforded. There is scarcely a textile factory in Russia that has not, as part of its equipment, English machinery. Between 85 and 90 per cent. of all cotton-spinning machinery used in Russia is of British make. Until quite recently nearly every mill was managed by British technical experts, managers, assistants, carders, weavers, and engineers. This had a great influence in the introduction of British machinery.

It is generally agreed, says a recent writer, that there are more German mill managers in Russia than there used to be, and fewer English, and possibly our neglect of languages is one of the causes for this. The Russian language now is an essential in these managerial posts, and if it can be acquired by Swiss and Germans, we should be able to do so as well. The Germans have made great inroads in our textile machinery trade, and, of course, their competition is far more formidable in that than it is in textiles. Spinning machinery is standardised, and that we should maintain our supremacy there may be twisted into a reproach ; little technical knowledge is required to sell a standardised article. We are not here primarily concerned with machinery, but in this trade, as in others, the German—fairly or not—is credited at once with bolder initiative and closer calculations. We give more than we need with our heavy machinery, and a wasteful excess of power which may, perhaps, be traced to the cheapness of our coal, and this is characteristic of a certain indolence and profusion in the ways of a nation accustomed to be paramount in commerce. The Germans have practically taken the woollen machinery trade from us in Russia, and also to a great extent that for the finishing trades in both cotton and wool. The more cause is there to get something back not only in machinery, but in textiles. The textile machinery business has been almost

entirely in the hands of two or three English firms who are well looked after by their own representatives on the spot, and whose principals have personally made frequent visits to Russia, and are quite familiar with the conditions prevailing.

When the first Russian textile factories were founded, says Mr. Gurevitch in a recent number of *The Engineer*, there was hardly any machinery industry in Germany, and hence the whole of the equipment and fittings for the Russian textile factories was ordered from England, whose textile industry was known the world over. England's influence on the Russian textile industry has prevailed to the present time, and, although the Russian textile factories gradually began to buy auxiliary and prime movers from Germany and Switzerland, they have, with the exception of the Russian Polish textile factories, mostly given the preference to the English manufacture when buying the special machines required for textile production.

Russia's demand for textile machines is, however, very large, and the industry with its yearly production of a value over £135,000,000, and its army of three-quarters of a million workmen, possessing an enormous inland market and supplying the demands of a population of 180,000,000 with textile products, belongs to the oldest and most prosperous branches of Russia's trade.

It is therefore clear that the English export of textile machines to Russia, which had a value of £995,296 in 1913, comprising 12 per cent. of the total English exports of these machines, could be considerably increased. The English export of textile machines to Russia shows a steadily rising tendency. For instance, in the first seven months of 1912 textile machines to the value of £506,730 were exported to Russia. In the same period of 1913 the export amounted to £520,800, and in the months from

January to July, 1914, to £548,115. Next to British India, whence English textile machines were exported to the value of £1,280,480 in the first seven months of 1914, Russia was the best customer for English textile machines.

The importance of the Russian market for this branch of the English machinery industry must greatly increase after the war. Three years ago Germany bought more textile machines from England than Russia, but the English export of textile machines to Germany decreased every year. For the months from January to July, 1912, the English export of textile machinery to Germany reached a value of £566,828, in the year 1913 of £442,900 for the same period, and in 1914 of only £348,223. The total importation of textile machines into Germany had in 1913 a value of £733,000, and 82 per cent. went from England.

In consequence of the recent German tendencies, which now aim at having a purely national German policy, in order to drive foreign products from the inland market, so that at least a part of the expected decrease in exports after the war may be covered through increased deliveries to the inland market, one may expect that the English exports of textile machines to Germany will experience a further decline.

The German manufacturers of textile machinery have informed the German textile industry that they are in a position to deliver spinning and weaving machines equal in quality and price to those, till now, bought in England.

Further particulars about the importation of textile machines by Russia down to the present time from the countries competing against England may here be of use. The following textile machines were exported from Germany to Russia in 1913: 140 machines for wool combing, to the value of £20,000; 106 wool-spinning machines for

carded yarn, value £50,000 ; 72 cotton-spinning machines, worth £15,000 ; 143 machines for preparing and spinning flax and hemp, value £20,000 ; 410 machines for twisting, spooling, and winding of yarns and thread, value £22,500 ; 792 weaving looms, value nearly £100,000 ; 33 machines for the preparation and working up of cotton, value £5,000, etc. etc., making a total of over a quarter of a million sterling. From these figures one sees that Russia bought chiefly weaving looms and wool-spinning machines from Germany. She also imported some textile machines from Switzerland. According to Swiss statistics for 1913 the following machines were exported to Russia : weaving looms to the value of 806,000 f., other weaving machinery, 377,000 f. ; spinning machines, 68,000 f., making with other items a total of 1,588,000 f.

In order to get a clearer view of the export of textile machinery to Russia, the following table is given :

	Exports to Russia	Total exports	Exports to Russia in per cent. of total exports
England . . .	£995,296	£8,288,000	Per cent. 12
Germany . . .	268,000	2,500,000	10.7
Switzerland . . .	62,200	558,000	11.2
U.S.A. . . .	—	447,000	—

Total exports, £11,787,000.

One sees from these figures that the English textile machines were at the head in the markets of the world as well as in Russia, and that the total English exports for these machines were larger than the German exports by about three-and-a-quarter times. The Russian cotton mills during the war have suffered very severely from the lack of dyes, hitherto imported almost entirely from Germany. As the demand is largely for bright-coloured and heavily printed cottons, this has been a serious matter,

and at one of the cotton-printing works visited at Moscow, they were only able to turn out very light patterns, and those only to a limited degree. If we can meet the demand for dyes, there is an entirely new field for British enterprise, and one which, with the development of cotton goods manufacturing in Russia, offers immense possibilities.

Although Russia occupies sixth place in the world in the silk industry, and has nearly three hundred silk-weaving mills, with an output of about four millions sterling, a great deal is imported, the figures for 1910, the last available, being £3,500,000.

Trans-Caucasus and Turkestan produce annually about 6000 tons of dry cocoons and in these districts considerable silk weaving is carried on, the balance of the cocoons finding their way to the silk mills at Lyons.

The silk industry is divided into three branches—the working of raw silk, the manufacture of ribbons, hand-kerchiefs and fabrics, and the preparation of brocades. The output of the latter is increasing rapidly, as is also that of the silk-weaving mills which have dyeing and finishing plants. As already pointed out, Germany sent to Russia more than twenty times as much silk piece goods, ribbons, etc., as Great Britain, while even Austria's exports were in excess of ours. The improved financial position of the Russian people will give a stimulus to the silk trade, both in the development of the silk industry in Russia and in the increase of her imports.

Notwithstanding its considerable output, the Russian woollen industry cannot satisfy the demands of the home market. In 1910, for instance, Russia imported yarn to the value of £750,000, thread to the amount of £1,240,000, and ready-made articles valued at £1,230,000; altogether woollen goods were imported to the value of £3,220,000. In 1913 the imports of wool, yarn and thread were about

the same, i.e. £2,000,000. Foreign wools also are finding a regular and increasing market in Russia. The imports of raw wool were valued in 1913 at £5,600,000.

Up to the twenties of the last century the Russian mills were mainly employed in supplying cloth for the needs of the Army, and only after the fifties began to work for the market. After many fluctuations the Russian woollen industry in 1879 showed signs of a steady progress, and recent figures give the number of enterprises as 1037, valued at £23,000,000, the total number of spindles in use at all the mills as 1,423,627, the number of looms—hand and power—43,173, and the total number of operatives engaged as 142,049 (88,669 men, 50,355 women, and 3025 children). Of all branches of the Russian textile industry this is probably the only one where the number of men exceeds the number of women. The output of all the mills is about 69,000 tons of yarn and 62,000 tons of texture. Each year Russian mills are doing larger business ; their wool consumption, valued at £7,000,000 in 1890, rose in a decade to £16,000,000, and to £20,000,000 in 1910.

The Russian woollen industry is grouped in the Baltic and Polish provinces, which are principally engaged in the manufacture of thin voile fabrics ; in the Moscow industrial region, which furnished in great quantities thin cloths and voile fabrics ; in the Province of Chernigov, where there are many cloth mills ; and, lastly, in the Province of Simbirsk and Tambov, which are engaged exclusively in the manufacture of heavy coarse cloths from Russian wool. Besides, there are many small and large koustarny mills in Russia engaged in the manufacture of felt and felt goods.

It may be prophesied, says *The Times Book of Russia*, that in the future Russian mills will use imported wool mainly, seeing that in Central and Southern Russia cereal growing is taking the place of sheep farming, and, to a

lesser degree, the same is the case in the Caucasus and the Siberian Steppes. This increase in production principally results from the diminution of flocks. According to the latest statistics published by the Department of Agrarian and Agricultural Organisation, there are 76,000,000 thick-fleeced and 5,000,000 fine-fleeced sheep in the empire, the latter figure having decreased from 8,000,000 in the course of a decade. As agriculture increased in Russia, so pasturage decreased, bringing about shortage of wool and increases in price, which latter, coinciding with the general cheapening of wool on the world's market incident on the rearing of merinos in Australia and Argentina, let in foreign wool. In consequence Russian farmers had to face the alternative of introducing modern methods into the old pastoral system, or of taking up a more remunerative branch of farming. Many choose the latter, and some have tried to carry on the old migratory pastoral system by transporting their flocks to the Siberian Steppes. The Russian sheep farmer by his conservative methods places the Russian millowner under growing dependence on the foreigner. At the moment there seems nothing but a rapid increase in wool imports to be expected.

There is in all the principal centres a very large demand for suit lengths of woollens, instead of whole pieces. Germany has specialised in this trade, and a large number of German firms in England were engaged in this business.

Russian flax plays the same part in the world's market as does American cotton. During the last three or four years a great change has been taking place in the flax industry. The best technical, scientific and practical experts at the disposal of the Government, the Zemstvos, and also private organisations are all engaged in improving the condition of the flax industry, both with regard to the cultivation of flax and the most successful technical treatment of its fibres.

Great Britain's purchases of Russian flax and tow in 1913 were valued at £3,300,000, or more than one-third of the whole export, this material being used for the lower counts. In view of the general situation of the linen trade, Belfast manufacturers have of late been devoting special attention to the conditions and prospects of Russian flax production. In 1868 Russian mills possessed hardly 110,000 spindles ; in 1888 there were 248,868 spindles, and in 1908 362,382 spindles. The number of spindles in 1913 was 416,274, an increase of $5\frac{1}{2}$ per cent. over the previous year. The quantity of raw flax treated was 80,000 tons ; 50,000 tons of yarn were spun, and 4250 tons of linen thread manufactured. The number of looms at work was 15,049. The whole output in the form of yarn is used by the Russian weaving mills.

The above figures show that the flax industry in Russia is making good progress. Notwithstanding this, however, it consumes only 20 per cent. of the total quantity of flax raised in the country, which amounts to about 400,000 tons per annum.

The manufacture of cord and twine was known in Russia a long time ago. Ropemaking, even if it did exist, played, however, no important part on account of the small amount of river and marine craft then owned in Russia. The first ropeworks were founded by the English at Kholmorgy (near Archangel). A great impetus was given to the ropemaking industry in the reign of Peter the Great, when Russia became a maritime Power and needed a considerable supply of cordage for her fleet. At that time the Government displayed an active interest in the development of hemp culture and in the establishment of rope-walks.

During the eighties of the last century the hemp industry was carried on only in a few districts, principally in Petrograd. In Petrograd there is a production valued

at over £200,000, of which the Hoth Works contribute about £120,000, representing 3200 tons. In the Province of Yaroslav, second in importance, the works of Zhuravlev turn out more than 4800 tons, valued at £134,000. The Provinces of Orel, Kherson, Ryazan and Perm manufacture more than 1600 tons each. Besides the working of hemp in factories, the koustarny manufacture of cords and twine is carried on in the Provinces of Tver, Orel, Chernigov, Kaluga, Voronezh and others.

The area of land under hemp cultivation has recently diminished. In 1903 there were over 2,000,000 acres sown in European Russia, while in 1912 this area had shrunk to 1,500,000 acres. The cultivation of hemp in Russia is not on a scientific basis, and the crop depends exclusively on weather conditions. Hence the production fluctuates from 50 per cent. to 70 per cent. without any proportion to the increase or otherwise of the area sown. For instance, the harvest returns in 1905 were 290,000 tons, in 1907 487,000 tons, and in 1909 303,000 tons, while in 1912 the total yield was 354,000 tons of hemp.

The manufacture of jute goods in Russia began comparatively recently. In the eighties it hardly existed. Attempts to grow jute in the south of Russia have ended in failure, and the Russian jute mills depend on imported raw material. The figures representing the quantity of jute imported therefore serve as an indication of the growth of this industry in Russia. The imports in 1881 consisted of 102,000 tons, in 1901 of 248,000 tons, and in 1910 of 391,000 tons. At the present time there are ten jute factories in Russia, with 45,000 spindles and about 2400 looms, employing 10,638 operatives, and the value of their total production is estimated at £17,000,000.

Nearly all the jute factories in Russia are engaged in the manufacture of sacks.

XVIII

TRADING IN RUSSIA

Shop signs—Street markets—The fairs—Nijni-Novgorod fair—Ibit fair—Kiev fair.

A PECULIARITY of Russian shops, especially those of the smaller kind, and those in the villages and small towns, is to indicate the nature of the business by more or less elaborate paintings outside the shop. The butcher shows a picture of cattle, pigs and sheep ; the dairyman a cow, and what is intended to be a representation of butter and cheese, and so on. Some of these pictures are very crude, but others are quite elaborate. It is a relic of the times when few people could read or write, and it is not without its advantages even to-day.

Many of the Russian manufacturers, especially in the textile trades, have their own shops in several of the principal centres, where they sell only their own productions at retail. It occurred to me that this practice must militate against other dealers handling the same lines, but I was assured that it did not.

Street markets are an important feature of Russian life. Moscow has its own Sunday Petticoat Lane market, where almost every conceivable second-hand article can be bought. At different seasons, special markets are held for the sale of dried fish, mushrooms and other articles, and here the winter's supplies are purchased.

In the smaller towns and larger villages much of the trade is done at the markets. Farmers bring in their

produce for sale, and scores of booths and stalls afford them ready opportunity of buying their own requirements with the proceeds of their sales.

Retail shops in Russia do not deliver goods as they do in this country. The cab fares before the war were very cheap, and it was no unusual thing to see cabs piled up with parcels of every shape and size, representing the purchases of the occupant. Even the larger stores have no delivery wagons. An American firm at Petrograd bought and paid for a large safe, and proceeded to give instructions for its delivery. "We have nothing to do with that," was the reply. "There is the safe, it's yours, and you can do what you like with it." Expostulation was in vain, and the firm had to make its own arrangements for carting it to their office and putting it into position.

Most foreign goods are handled by agents who sell to the wholesalers and the larger retail trade in the bigger cities, and the same course is adopted when the foreign manufacturer has his own representative in Russia. It would involve too much risk and trouble to attempt to deal with all the small retailers in the different small towns.

In the case of machinery and plant for manufacturing, business is, of course, done direct; the agent, where there is one, passing on the order; though, as pointed out in the chapter on agents, he often acts as a principal, making his own profit instead of selling on commission. The Government, Municipalities, Zemstvos and Co-operative Societies prefer to buy direct from the manufacturer, though, as a rule, the intervention of a commission agent is welcomed, so long as the invoices are made direct by the manufacturer. A resident representative enables the purchaser to give more explicit instructions, make bargains, and to avoid all the difficulties and annoyances of

translations, and the risk of misunderstanding, and even in the largest businesses is preferred to dealing direct by correspondence.

A great deal of business is, however, done at the numerous fairs held all over Russia. According to official returns, in the whole of Russia there are each year about 16,000 fairs, with a total turnover of 5,000,000,000 roubles. The great portion of these consist of local fairs of short duration for the exchange of agricultural products, with a turnover of less than 10,000 roubles. The fairs of secondary importance, with a turnover of 10,000 roubles to 100,000 roubles, comprise 10 per cent. of the total number; whereas the fairs of primary importance, with a turnover of more than 100,000 roubles, comprise approximately 1 per cent. There can be no doubt, however, that fairs have lost their hold on Russia, the necessity for their existence being gradually removed as transport facilities make it more easy for buyer and seller to get into close and more frequent touch.

The principal fair is, of course, that of Nijni-Novgorod, a town on the Volga about 400 miles east of Moscow. It has been established here for more than a century, and owes its existence at this point to the transportation facilities of the Volga and its tributaries.

The main building of the fair, the Gostinny Dvor, is a large and imposing building in which all the administrative work of the fair is carried on by Government officials, and where also the branch office of the Imperial Bank is open during the fair period. In this area there are about 2500 shops, mostly one or two storied stone buildings with a localised display of goods. Streets, as a rule, follow the designation of the articles displayed in them: Fur Trade Row, Striped Linen Row, Soap Row, Glass Row, etc. Together with the booths in the outer fair, there are nearly 10,000 booths. From the Exchange, the Peter-

burg and Alexander Nevski Streets lead parallel to the Oka shore to the northern part of the outer fair opening into the Cathedral square with the Alexander Nevski. Further on is the so-called row of bells which hang on wooden frames. The Streilka promontory commands a fine view of the town of Nijni-Novgorod across the river. At the western end of Nijegorod Street are the circus and amusement booths and caravansky stands in a small square where rice, raisins, dried peaches, pistachio nuts and other Persian products are sold. From this district, Tartar Bridge, across the north arm of the canal, leads to the inner fair and the Chinese Rows. East of the bridge is the centre for the sale of Persian goods, while Russian shawls are also offered in the same neighbourhood. Carriage Row contains an exhibit of every variety of vehicle. The Brazilian Passage is frequented by retail dealers in gold and other precious ornaments. Of the other streets crossing Nijegorod Street the most important is Tsar Street, with its stocks of soap, mostly from Kazan, and Makariev Street, where the merchants offer groceries and spices. Southwards from the Exchange, Alexander Nevski Street leads to the inner fair with stalls for musical instruments and various iron wares and ikons on its left side. To the east of the main fair are situated shops with displays of millinery, jewellery and trinkets of all kinds. The railways situated at the south end of the fair lead to the industrial centres of Vladimir and Moscow.

During the past and preceding years, owing to the war, the importance of Nijni-Novgorod has been still further diminished ; firstly, since the chief buyers for one of its most important products, furs—namely, Germany and Austria—were naturally unable to participate ; secondly, because the prices of many commodities have been regulated by the Government ; thirdly, the requirements of the Army have been so numerous that very little has been

left over to be sent to the great clearing-house of the year ; and fourthly, the lack of transport.

In consequence of the difficulties of making exhibits at the fair this year, many large merchants in Central Russia and Moscow agents, as well as every Siberian company, decided not to participate in the fair at all, so that many of those who were responsible for a large business turnover in previous years were this year absent altogether. The number of firms dealing at the fair amounted to 1496, as compared with the figures 2082 in 1915, 2963 in 1914, and 2920 in 1913. The most important market in Russia connected with the fair is the textile market, but during the past two years, owing to the war, many factories have been taking on merely war requirements, and this has diminished considerably the production for the home market, although many made strenuous efforts to keep up their connections in this direction, and not decrease the production of cheap manufactures. In the production of the more expensive cloths, silk, etc., efforts were made to restrict the output.

The fair opens about July 15th and continues until September. Goods are not sold by samples, but in bulk, the actual stocks being stored in the various warehouses. The shops or bazaars in the Administrative building are devoted to the sale of goods at retail, and afford a good opportunity for the introduction of British goods. The annual turnover of Nijni-Novgorod Fair in normal times approximates twenty million pounds sterling, and the number of visitors runs to hundreds of thousands.

Next to the Nijni-Novgorod Fair in matter of turnover comes the Irbit Fair, but this also has shown signs of decadence.

Furs and hides form the articles in which most trade is carried on, but partly owing to diminished supplies from Siberia and partly to the demand of foreign houses

to buy direct from the Siberian sources, there has been a considerable decline in this market.

Irbit has been the centre of the fur supply for Russian fur dealers, and the furs which remain unsold at Irbit go to Nijni-Novgorod.

Another important occasion in the year book of fairs is the Kiev Contract Fair, at which most of the bankers, manufacturers and agriculturists meet for the settlement of outstanding accounts, and to make new contracts involving large amounts of money.

XIX

BOOTS, SHOES AND LEATHER

Russian tanneries—Increased demand for boots—Not confined to cheaper qualities—Trade opportunities after war.

IN no branch of industry has there been such an upheaval since the war, or is it more difficult to foretell the future position, than in leather and its products. Necessity is the mother of production as well as of invention, and the demand for boots for the armies and the difficulties of importation have caused the tanneries and boot factories of Russia to make immense strides since the war commenced.

A very large proportion of the leather tanned in Russia consists of youft, a coarse Russian leather made in the villages in the most primitive manner. There were, however, considerable tanneries in Petrograd, Moscow, Odessa, Berdichev and Taganrog. Mention must also be made of the birch-bark tanned Russian leather, which bears a very high reputation, and was shipped in considerable quantities to England and other parts of the world.

Notwithstanding the enormous production of hides in Russia and the fact that its importation of tanning materials amounted to four millions sterling, there was a very great demand for leather and boots and shoes, the former being in many cases from Russian hides sent to foreign countries, there tanned, and subsequently sent back as finished product.

The scarcity of tanning material and of raw hides

formerly imported, especially heavy sole leather, led to a combination of all the tanners in the country into an organisation known as the Pan-Russian Society of Tanners, which, during the war, has been almost exclusively employed in supplying the Government, and has been very closely affiliated with the War Department. In addition, the Russian Government and the Municipal authorities have made considerable efforts to develop the leather and boot-making industries. The Conseiller Imperial, M. Muratoff, has been appointed by the Government to draw up a programme of the measures to be taken for the extension of these trades. The municipality of Mariopol has established a large new tannery, and several other similar manufactories are in process of erection in the district of Ekaterinoslav.

The departmental authorities of Samara have offered a sum of 100,000 roubles to each person who will establish a big manufactory in the district. A large shoe factory is just about to be opened at Kiev, and another at Saratoff. Similar efforts are to be made in other districts. One can foresee that after the war the leather and shoe industry of Russia will be enormously developed, and will become one of the most important industries of the country.

Since the declaration of war, the hide and leather industry in Siberia has been greatly developed. Numerous tanneries have been constructed in the Omsk district. A company has just been formed there with the object of producing sole and upper leather, which it is hoped to turn out at the rate of 60,000 hides a year. The tanneries already in existence are making every effort to augment their production of leather. Leather manufacturers in the Bijsk district, who produce annually 200,000 skins, have extensions in view, by means of which they hope to raise the output to 300,000. Speaking generally, the leather and hide industry of Siberia has a big future before

it, for cattle raising in the Siberian Steppes is being more and more extended every day. Altogether, Siberia sends into the Russian market more than 5,500,000 hides of large cattle, and this quantity can very easily be doubled.

The chief point of interest in this lies in the fact that the demand for tanning materials and for the heavier leathers not made in the country will be very much larger than before the war, and that our opportunity is by no means confined to the capture of Germany's previous share of this trade.

There is, however, another factor that will very largely augment the demand for both leather and for boots and shoes. Millions of men in the army have been wearing leather boots regularly for the first time in their lives. Among the peasants a pair of boots was usually a luxury to be worn only on special occasions and expected to last a lifetime. When on rare occasions they came to Moscow or some other big city, they carried their boots with their luggage, and only put them on when they arrived at the station. The demand for boots and shoes in Russia will be enormously increased ; ten or twenty times, in my opinion. But, it will be said, if they could not afford to buy boots before, how can they do so after the war ? The answer is in the abolition of vodka. As stated in another chapter, this has increased the productive, the earning and the saving power of the peasant, and created a demand for comforts which finds its first expression in hats for the women and boots for all. Of course, this applies to a cheap and standard line rather than to the higher qualities.

The demand, however, will be by no means confined to the cheaper qualities. Russians of the upper and educated classes, especially the town-dwellers, are particularly neat in their dress, paying great attention to the matter of gloves and footwear. Among an impor-

tant section of the travelled public there exists a decided predilection for British-made articles, and that tendency is likely to be strongly emphasised by our closer alliance. These classes desire smart footwear, and have always been willing to pay good prices. Formerly this smart footwear came chiefly from the United States ; then, in a descending scale, from Vienna, Paris, and Berlin. Hardly any were sent direct from England. American boots are appreciated, though regarded as somewhat exaggerated in form. Paris fashions were admired by the travelled purchasers in society, while the business world bought the heavier-shaped boots of Berlin manufacture.

But it is to be remarked that there was a fast growing class of buyers who demanded boots and shoes of moderate price, and this demand was partly met by the local factories and largely by the Germans. It was they who supplied boots selling at from 12s. to 15s. per pair, though the Austrians were also sending some.

As regards the style of footwear, it is to be observed that Russians, as a rule, have small, well-shaped feet, with rather high instep. A point must be made of showing off the foot to advantage. For the higher-classed articles strong but supple calf is much appreciated, while patent leather is much worn, both in the shape of boots and shoes for "dressy" occasions. Fancy stitching, if not overdone, is appreciated for men's and boys' wear, and is essential in the case of boots, shoes and slippers for ladies and children. In the latter classes great latitude for fancy is permissible. High prices will be paid for really good and tasteful work. It is probable that, at least, in this matter of the more decorated footwear, it would prove highly remunerative to export the goods partly manufactured from England, to be finished in Russian workshops. In this way considerable saving would be effected in freight, customs charges and other costs.

Speaking generally, soles should not be as thick as in footwear for England. Although the cold in Russia is intense, it is dry, and the cold does not penetrate through the soles. Moreover, during the rainy season, and especially from September to March, practically everybody wears goloshes. There is, by the way, a huge demand for rubber shoes of all kinds, both in full and children's sizes, but this is amply catered for by the Russian American Rubber Company of Petrograd, who employ altogether some fifty thousand hands, and have branches and ramifications in every part of the empire.

The British Consuls in Russia lay particular stress upon the opportunities for British boot manufacturers in Russia after the war. Writing, for example, from Khar-koff, Vice-Consul Blakey adopts an optimistic tone, and incidentally he gives the following note: "German laced boots and ladies' French shoes have been sold here for a number of years in small quantities. Recently American makes have been introduced, and now command a satisfactory sale." The idea is also expressed that after the war German boots are not likely to be popular in Russia, and that an excellent chance will be offered for exploitation by the enterprise and energy of British makers. Reporting on the Mariopol district, Vice-Consul Walton is equally confident in his anticipations concerning boots and shoes, etc. Under the heading of "Openings for British Trade," he mentions that "foreign boots are in great favour, and this demand has been principally met by Germany and America." England certainly ought to obtain a share of this trade, and Mr. Walton adds: "In order to carry on a profitable business, British firms must be prepared to have reliable agents knowing the country and the clientele at principal trading centres, as great care must be exercised in choosing possible buyers. The Russians are fond, as a rule, of

English manufactures, and highly approve of British boots."

The boot shops in Russia are empty. Enormous prices have been paid for boots. The demand after the war will be urgent and very great, and no class of British manufactures has better opportunities and to none is the urgency of making immediate preparations more important than the boot and shoe trades.

Personal investigation is, however, necessary. All the Boards of Trade and Chambers of Commerce in Russia and England combined can do very little in helping the individual manufacturer to get into touch with responsible agents and buyers. But "the game is well worth the candle," and the expense incurred will prove a very profitable investment.

It may be interesting to note that the present duties on boots range from one penny per pound avoirdupois for the cheaper grades to three-halfpence per pound for kids and higher qualities.

XX

MOTOR CARS

Importations—English cars in Russia—Russian manufacturers—Prospects—
Motor transport—Sales before the war—German activity—New State
roads.

IN the year 1911 Russia took from us eighty-one complete cars and seven chassis, of a total value of £42,000. Three years later she paid in round figures £400,000 for 312 complete cars and 383 chassis. In 1913 she purchased more cars from us than did Germany, Belgium and Spain combined, and probably if the ultimate destination of the 109 cars purchased by Germany that year could be traced, the majority would be found in Russia. In 1914 the value of motor parts exported to Russia was nearly £132,000, exclusive of tires ; but these figures are swollen on account of the large purchases when war broke out. Indeed, the figures for the Russian Government contracts are not available, nor would it be anything but misleading to attempt to include such in a cursory review of normal trade between the two countries.

The development of motoring in Russia is largely due to the Russian Automobile Club, or to give it its full title, the Imperial Automobile Club of Russia. This club, with headquarters in Petrograd, is run on similar lines to our R.A.C., and has always been to the fore in the promotion of races, reliability trials, the superintendence of tests, or the undertaking of any duties that would help the motoring industry or be of service to the motoring community.

The Vauxhall Company, following their success in the 1911 trial, established a branch at Petrograd, with a competent staff of mechanics, and, in fulfilment of the terms on which cars are sold in the empire, a full stock of spare parts are carried. The Austin Company also always had in view the enormous possibilities of trade in Russia, and for many years had had agents there who have handled the Austin car and found it a lucrative proposition. The sale of Austin cars to a steadily increasing extent soon became a certainty. One of the earliest orders received was from H.I.H. the Grand Duchess Marie Pavlovna. This was soon followed by one from H.I.H. the Grand Duke Gavril Constantinovitch. The introduction thus obtained has developed in subsequent years in such a manner that, prior to the outbreak of war, a very large contract for Petrograd had been arranged for. Unfortunately, it had to be suspended when the war commenced.

Austin cars have taken a prominent part in the annual races for the Tsar's cup, and have received high awards in the competition. As a matter of more than passing interest it is well to mention here that the Austin car which was successful in competing in the Austrian-Alpine Trial in July, 1914, had been shipped for Petrograd to take part in the 1914 competition when the latter was cancelled and the car recalled owing to sterner business needing attention.

The trade which Austin cars have fostered by the enterprise of the company has had its reward in contracts of much importance which were placed by the Imperial Russian Government for ambulance chassis, armoured cars, mobile workshops, spare part wagons, oil and fuel tank wagons, transport lorries, mobile kitchens, etc. Especially notable work has been done by the armoured cars supplied by the company.

The Daimler Company also had a good share of Russian

business previous to the outbreak of hostilities, among their customers being the Empress Dowager. It is a far cry from a palace to a prison, but among the contracts secured by the Daimler Company was the supply of prison vans for the Petrograd municipality. At the last Petrograd show the company secured a gold medal for their exhibit.

Possibly the firm of D. Napier and Son have more customers among the Russian aristocracy than any other British makers. They have always received every opportunity to foster export trade, and with energetic and capable agents have more than held their own against continental competition.

Russian manufacturers have taken some part, though not as yet a large one, in the development of the motor industry. The Pouzyreff Company of Petrograd introduced their 24-30 h.p. machines with four cylinders and provided with four speeds. Then in 1909 the Fabrique de Wagons de Chemin de Fer of Riga entered the field. One of their first productions was put to the test in the Petrograd-Riga race of 1909, and did well. Subsequently, under the Russo-Baltique Company, a larger scale of manufacture was put into operation, and this company, just before the outbreak of war, was turning out about three hundred chassis a year.

In all the world there is no other market which offers greater prospects than that of Russia. The country is in the early stage of a very rapid development which, while temporarily diverted from its normal course, must in the long run be materially accelerated as a result of the war. In Russia we have a country with an area of nearly twenty-three million square kilometres and a population of about one hundred and eighty millions. After the war, development will take place in all directions. New railways and new roads will be built, and

railways and roads constructed as a temporary expedient for military purposes will be rendered permanent. The passenger transport of the centres of population will be studied, and either tramways or road motor vehicles will have to be adopted in large numbers. Meanwhile, industrial enterprises will grow apace, but despite this it must be a very long time before the country will be able to supply her own requirements, which are themselves growing with equal rapidity. The inevitable development should bring about a period of great prosperity, on which will naturally follow a desire for greater comfort and luxury. In a country of such immense extent, comfortable and fast means of transport are of the first importance. Even now the wealthier members of the farming class use motors in preference to vehicles drawn by animals. It remains for them to extend their experience by conveying not merely themselves, but their produce, by more modern means, and by using machinery in every possible way in connection with the cultivation of the soil.

The Petrograd correspondent of the *Railway Gazette* says that while it is quite true that, considering its size, transport facilities in Russia are practically speaking undeveloped, nevertheless this very fact gives rise to an enormous demand for motor transport which would otherwise be non-existent. As regards the credit side of the question, there is no doubt at all that unless the trader is careless business can be done in Russia without the necessity of incurring large losses in the way of bad debts, added to which the present result of the war has been to decrease rather than increase the demand for extended terms of credit.

Another effect of the war has been to open the eyes of Russia to the enormous possibilities of motor transport, and one of the most promising fields brought forward has been that of feeder motor services for the

railways. Russia is such a huge country that its railway development will for years continue to be that of the construction of main lines, and for its branch lines it must rely on motor transport. Provided attention is paid to the design of the motors, the Russian roads offer no serious difficulty to the satisfactory working of such services. In general the points that must be borne in mind are that the chassis shall have a very high road clearance, that the frames shall be extra strong in construction, that the engine power shall be largely increased, and that special regard should be paid to the springing of the vehicles and the solidity of the bodies, owing to the much heavier strains to which they are subjected in consequence of the bad state of the roads.

Of the many openings for motor transport the following at the present time should be given most attention :

(1) *Feeder services for railways.* Russian railways can be classed almost invariably as main lines, and there are large villages and towns still unconnected with any line of railway by anything other than the ordinary roads. The class of vehicles demanded for this service are :

(a) Extra heavily built combined passenger and goods vehicles which should accommodate about twelve people and carry at the same time from 30 cwts. to 2 tons of goods.

(b) Three to five-ton motor lorries for the carriage of goods only, fitted with engines capable of developing from 50 to 60 h.p.

(c) Fast passenger vehicles holding about sixteen passengers without any outside accommodation.

(2) *Special services to mines, engineering works, etc., lying away from the railway.* The class of vehicles demanded are a combined passenger and goods vehicle carrying from six to eight passengers and 2 tons of goods ; and 3 to 5-ton lorries for goods only.

(3) *Delivery of goods in towns.* There is a very large

demand in connection with the railways for delivery of goods in the large towns, for which a 3-ton motor lorry will probably be adopted as the standard.

(4) *Post office delivery vans.* A great many of the motor vehicles previously in use before the war by the post offices have been commandeered for military purposes, and there is a large and urgent demand for their replacement by high-speed lorries with a carrying capacity of $1\frac{1}{2}$ to 2 tons, and also for lighter vehicles.

(5) *Touring cars.* There is a very large demand in Russia for touring cars. In the towns the demand may be divided into two classes—one for a very expensively built luxurious touring car with preferably a limousine body, and the other for a cheap strong open touring car. The middle-priced vehicles are principally demanded outside the large cities.

(6) *Motor taxi-cabs.* Even before the war there were comparatively few motor taxi-cabs in use in Russia, and this was very noticeable in large cities like Petrograd and Moscow. The war has still further reduced the number of vehicles in this class of service, while the demand for them has very considerably increased ; and after the war, when means can be found to satisfy it, the large Russian cities will offer enormous scope for the development of the motor taxi-cab trade.

Summing up the position as regards the motor industry, the demand for motor transport has enormously increased of recent years, and at the same time the possibility of meeting this demand has since 1914 been decreased almost to disappearance by the size of the military requirements.

The import of German cars, which previously held the market, has been entirely stopped by the war and the import of American cars has been almost altogether confined to those required for military purposes. Russia is anxious to place her custom with British firms, and will

welcome any attempt on the part of manufacturers in this country to develop the Russian motor trade. She is herself building six motor-car works, of which three will probably work on English models, the remaining three being divided between Italy, France and America respectively. Although the output from these six works will be fairly considerable, amounting probably to some 5000 cars per annum, during the war the whole and after it about half this number will be required for Government purposes, and the remaining half will fall a very long way short of supplying the Russian demands.

Of all the openings above mentioned, the most interesting is that which concerns the use of commercial motor vehicles running on ordinary roads as feeder lines for the railways. This demands the use of a more or less special type of vehicle, both as regards the chassis and body, as the former must be fitted with heavy high-powered engines, and built on much stronger lines than is usual in British practice. The design of these offers British firms an excellent chance of entering the Russian motor-car business with the prospects of an assured demand and if any firm succeeds in putting forward a thoroughly satisfactory vehicle, the demand will be largely increased, as many years must elapse before the Russian railway department can turn its attention to the construction of feeder lines to replace these motor services. A point which manufacturers, in dealing with this problem, must bear in mind is the fact that the majority of these services will have to run long distances without any possibility of repair other than that which can be carried out by the driver on the road, and especial attention must, therefore, be paid to both simplicity of construction, strength of working parts and get-at-ability of the mechanism.

The Russian climate and conditions present their own

problems, and fortunately the use of British motor vehicles during the war on the Russian front has given British manufacturers the opportunity of thoroughly investigating these and making due provision for them in future designs.

Before the war commenced the automobile business was more or less concentrated in Petrograd, Moscow, Kiev, Riga and Kharkov, and the following table shows the approximate sales :

Petrograd	.	.	.	.	2,600
Moscow	.	.	.	.	2,200
Kiev	.	.	.	.	1,000
Kharkov	.	.	.	.	800
Riga	.	.	.	.	600
Poland	.	.	.	.	1,500
In other States	.	.	.	.	3,300
Total					12,000

In this enumeration the military automobiles are not included, and these probably numbered about 1500 at the outbreak of the war.

Concerning the cars tabulated above the majority came from Germany. France ranked next and England had a fair proportion. A good many also came from Italy and a few from America.

In the city of Petrograd the most popular car was the Benz, with the Opel ranking second, and then followed Renault, Delaunay-Belleville, Mérçèdes, F.I.A.T., Métallurgique, Vauxhall, Itala, Rolls-Royce, Peugeot, Lancia, Panhard, and a few less known French makes. A certain number of cars are also turned out at the Russian factory in Riga.

Trade conditions in the automobile business in Russia have been very unsatisfactory, owing to the absence of agents or dealers as generally understood. Many good firms were represented by people who regarded auto-

mobiles as a side line and this unsatisfactory state of affairs led to the establishment of manufacturers' depots in Russia during the two years previous to the war. Much of this activity was the result of German far-sightedness, as may be shown by the example of the Benz Company, who opened a branch in the best part of Petrograd, adding repair shops. The rent for the building amounted to £2400 a year, and at the outbreak of war an excellent business was being done. The first year more than four hundred cars were sold and large inducements were offered to the clients. Another branch was situated in Moscow, and was also doing a very good business indeed.

Almost as good a trade was being done by the Renault branch in Petrograd, although the sales were slightly smaller than those of the Benz. In 1914 Renault actually commenced to build a factory in Petrograd, intending to manufacture cars on the spot, but, of course, this is at present operating on the manufacture of munitions.

Among other well-known manufacturers having depots in Petrograd may be mentioned Mérçèdes, Delahaye, F.I.A.T. and Métallurgique.

Many people are unaware of the existence of the Russian Baltic factory of Riga, which has been producing railroad cars and commenced the manufacture of automobiles in 1899. The factory has been favoured by many large Government orders, and at the start of the war was building complete cars without the need for importing any parts. Its estimated output for the past few years was between three hundred to five hundred cars annually, and its most recent programme consisted of two models of private cars. Only experimental lorries have been built, and the work of the factory must have been somewhat interfered with by its transference from Riga to the interior. At present the entire output is taken by the Government for war purposes.

It is perhaps surprising that the number of cars used in Russia should be so small, but the situation is explained by the scarcity of State roads and the unsatisfactory conditions of sale which have been described. It may also be due in part to the absence of any large automobile manufacturing plants in Russia. At present there are only 22,000 miles of State roads in all Russia. They are situated mostly in places where they have a military value, such as the western part of Russia, in Poland, in the Caucasus, and in the district of Moscow. In addition to these principal State roads there are country roads totalling about 135,000 miles, and these are quite satisfactory in summer. In the spring and winter the majority of the roads are impassable, although all-year traffic is possible on a few. The reason for the roads being so bad is that the money available for their improvement has been insufficient. The Government have been too preoccupied to develop the railroads, but the Duma has been devoting attention to roads recently, and it is expected that the State road system will be extended very greatly soon after the war.

At present, for building new State roads and repairing old roads, there is an annual appropriation of less than £1,000,000, and two-thirds of this is given to the roads having military importance. This, of course, leaves but a small sum when one regards the vastness of the road systems really required by Russia.

The use of automobiles in the war will undoubtedly result in their value being appreciated much more widely, and there is, therefore, every reason to anticipate that the building of new State roads will proceed very rapidly when the war is over. The Ministry of Ways of Communications has already worked out a scheme for a complete system of State roads interconnecting with new railroad lines already projected.

XXI

MACHINERY, ELECTRICAL AND ENGINEERING

An immense field—Imports before the war—Home production—England's share smallest—German machinery—Electro-technical goods—Telephones and Telegraphs—Swiss exports—Unlimited demand.

IF the possibilities of British trade with Russia after the war were confined to machinery and electrical and engineering equipment, it would open up a field so immense, that it would keep our factories going for many years to come. Statistics of former trade in these departments, while indicating to some extent the opportunities afforded by displacing the previous German imports, only touch on the fringe of the subject, and give very little idea of the potentialities of the future. In the development of her own industries—and this will be Russia's most important task after the war, and the one to which her leading men will give most attention—there will be an enormous demand for everything that can be included in factory equipment and maintenance. The building of railways, the increasing facilities at the ports, the hundreds of municipal enterprises, including water-works, sanitary improvements, tramways, road construction, electric and gas lighting and fire brigade equipment, will make a demand for hundreds of millions sterling of material. The following figures for 1913, taken from the official Russian statistics, indicate the growing

demand in Russia even before the war, and also the extent of Germany's "peaceful penetration."

	Aggregate imports	From Germany
		Roubles
Metals, raw and half-finished products	56,377,822	30,280,845
Copper and alloys, manufactured	10,384,245	9,131,874
Cast iron, manufactured	4,340,080	3,236,451
Iron and steel, manufactured (pipes, anchors, nails, etc.)	20,641,901	16,330,760
Tinned and enamelled goods	5,855,016	5,152,417
Iron wire, etc.	2,281,129	1,448,856
Cables, etc.	4,836,275	4,063,417
Needles, guns, etc.	13,767,425	9,414,947
Machines, unenumerated, of iron and steel	36,403,361	28,400,098
Gas and oil motors	10,390,131	5,716,678
Steam-engines	5,894,885	2,966,945
Pumps—hand fire-engines	7,696,127	6,733,853
Sewing machines	9,941,019	5,296,690
Metal-working machines	12,787,605	10,658,126
Electrical machines	9,724,948	8,605,365
Agricultural implements	24,789,720	9,924,716
Machine parts of cast-iron, iron and steel	15,796,213	11,653,331
Instruments, optical, etc.	5,169,167	4,419,426
Electrical switches, etc.	6,808,319	6,206,244
,, meters	1,492,645	1,455,910
Incandescent metal-wire lamps	4,431,437	3,847,769
Cycles	1,884,541	1,603,801
Parts of carriages, etc.	2,135,022	1,558,984
Automobiles for four or more passengers	14,759,379	11,778,865
Goods automobiles, etc.	1,453,586	1,162,635
Aggregate	352,669,000	235,930,000

Taking the aggregate of the ten different sections, Germany figures with a total of 652,209,000 roubles, out of total imports amounting to 1,374,032,000 roubles, of which 173,012,000 roubles came from England and 79,092,000 roubles from America. Since 1913 the Russian imports have increased 102 per cent.—from 681,670,000 roubles to the above figures—whilst the share falling to Germany has increased 169 per cent., that of England

53 per cent., and that of America 25 per cent. ; Sweden's export to Russia has increased 257 per cent. (in 1913, 16,926,000 roubles), and Denmark's 121 per cent. (in 1913, 12,867,000 roubles). It should also be mentioned that in the section for chemical industry, Germany figured with 40,008,421 roubles, or 66 per cent. of the aggregate. The whole question has been treated exhaustively by Engineer P. Gureivitch in the *Electrichestvo*, of Petrograd, the *Electrical Review* and other technical journals, and much of the information in this chapter is drawn from those sources. Although the Russian machinery trade can look back on fifty years of development, it is, he says, one of the least developed industrial branches in Russia. The foundation of this industry was laid in the sixties of the last century, after the emancipation of the Russian peasants from serfdom in 1861 had given the first impulse to Russia's conversion from a purely agricultural to a mixed agricultural and industrial state.

As the country still possessed no important manufacturing industries, naturally its requirements in machinery were very small. The most important customer for many decades was, therefore, the State, which required great quantities of railway materials, locomotives, wagons, etc., for the railways, which were built by it, whilst considerable orders were given for the Army and Navy. Hence the whole Russian machinery trade was chiefly founded for the requirements of the State, and these enterprises, founded by the support of the State and with promises of Government orders, took very little interest in the requirements of the general market and the private buyer.

This far-reaching dependence on the support of the Russian War Ministry and of the State Railway Department checked the development of the Russian machinery and iron industry. This industry made no effort to

advance, and remained, in comparison with the West European machinery trade, in a backward condition, as the impulse of rivalry and driving power of competition were missing. State contracts at very high prices were assured, and in consequence of the demands caused by the development of the Russian State Railways there was no lack of orders for many years. But when the Russian State was obliged to lessen its orders for various causes, a crisis occurred, as the Russian factories, which were only equipped for the execution of State orders, could not suddenly change the nature of their productions, erect other machines and, for instance, produce, instead of railway material, the small iron ware for which the demands of the home market had always been large.

The consequence of this one-sided development of the industry were that whilst Russia could itself, under normal conditions, easily cover the requirements of the home market with regard to locomotives, rolling stock, rails, etc., all other necessary machines and apparatus had to be, for a great part—over 40 per cent. of the demand—bought in foreign countries.

Many other causes also checked the development of the industry, with the consequence that Russia has become the best market for the West European and American manufacturers of machinery. The following table of Russian statistics gives closer particulars of the development of machinery importation to Russia in the last three years :

Years	Machinery imports to Russia Roubles	Total imports of all goods to Russia Roubles	Machinery imports in per cent. of total imports Per cent.
1911	147,000,000	1,022,700,000	14·4
1912	149,200,000	1,034,600,000	14·4
1913	163,700,000	1,220,500,000	13·4

With regard to Russian home production of machinery,

according to the statistics of the Russian Ministry of Finance in 1900, the whole of the State and private manufacturers produced various machines to the value of 52,000,000 roubles, on the making of which 49,000 workmen were engaged. In the year 1908 the number of workmen increased to 110,000, and the value of machinery to 140,000,000 roubles. Thus the value of machines manufactured in Russia increased in eight years by 173 per cent., and the number of workmen by 124.5 per cent.

Unfortunately, no reliable statistics about this industry have been issued during the last few years, but an expert in this question, Professor N. Sawwin, calculated the value of machines produced in Russia in 1912 to be 210,000,000 roubles. If one adds to this sum the value of machines imported in 1912 from abroad, we find that Russia's demands for machinery in the year 1912 reached a value of 360,000,000 roubles (say, £38,000,000).

It will be interesting to see how this considerable volume of machinery is divided between those countries which are considered to be the chief exporters for the world's markets.

According to the official statistics of these countries, their machinery exports in 1913, exclusive of motor-cars and electrical machines, were as follows. The export totals of these two last-named groups of machines are separately given :

	Exports of machinery to Russia	Total of machinery exports	Exports to Russia in per cent. of total exports
	£	£	Per cent.
England	3,885,664	34,743,000	11.2
Germany	59,762,000 R.	33,450,000 R.	19.2
Switzerland	4,402,000 R.	3,046,000 R.	15.3

Total of machinery exports, £97,599,000.

These figures show that Great Britain's share in the Russian market for machinery was the smallest; while

nearly one-fifth of the total German and one-sixth of the total Swiss machinery exports went to Russia, only 11.2 per cent. of the whole of Great Britain's machinery trade was done with Russia.

The statistical figures of the exporting countries have been intentionally used in the above table instead of the Russian statistical figures, as the latter are, unfortunately, with regard to the origin of the imported goods, very inaccurate and unreliable. It is certain that the Russian statistical figures of imports from Germany into Russia are exaggerated, while the figures of imports from the United Kingdom and other countries are too low. The reason of this is that goods in transit through Germany were generally registered in the Russian statistics as German goods, although they were of British, American, Swiss, Belgian, etc., origin, because in Russia, as in England, the origin of goods is registered according to the port of lading. As has already been shown above, Germany exported to Russia 19.2 per cent. of its total machinery exports. Moreover, Russia occupied the first place among all European countries, as importer of German machinery, as Germany exported to Austria in 1913 only 11 per cent. of its total machinery export, 10 per cent. to France, 7 per cent. to England, and 5 per cent. to Belgium, Holland and Italy respectively. The German machinery export to Russia increased every year very considerably. In 1909 it amounted—electrical machinery and motor-cars not included—to M.49,500,000 only, in 1910 it rose to M.65,500,000, in 1911 to M.84,500,000, and in 1913 reached M.129,900,000. In five years it increased more than two-and-a-half times, or 250 per cent., so that it was £2,400,000, or 64 per cent. higher than the British export of machinery to Russia.

According to Russian statistics, the German machinery trade with Russia was, of course, as shown above, still

larger. In the years 1901–1905 the average total machinery trade with Russia amounted to 30,500,000 or 53·8 per cent. In the years 1906–1910 the total trade to Russia rose to 84,200,000 roubles, on an average, per year, and Germany's share increased to 56·5 per cent. Germany's share in the import of steam-engines, according to Russian statistics, amounted to as much as 76 per cent., the share in import of pumps to 82 per cent., and in metal-working machines to 81 per cent. In reality, however, the imports from Germany, as already mentioned above, were somewhat smaller. For instance, the very considerable Swiss export of dynamos to Russia to the value of 3,278,000 f. was hardly mentioned in the Russian statistics as coming from Switzerland, but was for the most part included in the imports from Germany.

The interruption of the German importation of electro-technical goods into Russia, which grew from 14,140,000 marks in 1909 to 34,505,000 marks' value in 1913, constrained Russian importers to turn for such goods to other countries, particularly England. Unfortunately, however, while Russian buyers, faced with the necessity of filling up the blank that had been formed, are greatly interested in English goods, the English electro-technical industry—with a few exceptions—does not feel any special need of new markets, and, therefore, has not shown any particular interest in the Russian market. The lack of interest may be partly due to temporary war conditions, but it is also based, unfortunately, on a variety of causes, which are not of a transitory nature. The causes of the relatively feeble interest of the English electrical industry in the Russian market are the following: Electrical development in England itself is not particularly large compared with that of other countries. This is explained largely by the great prevalence of gas-works in the country. England, with its cheap coal, as is known,

was the pioneer in the business of gas-lighting. At the present time there are 1,622 gas-works in England, whilst in all Germany there are but 552; in Russia but 22. Further, in Paris the output of gas per annum is 500,000,00 cubic metres; in Berlin, 300,000,000; in Vienna, 120,000,000; in Warsaw, 36,000,000; in Petrograd, 19,000,000; and in Moscow, 13,000,000. But every year the output of gas in London makes 900,000,00 cubic metres; that is to say, as much as in Paris, Berlin and Vienna. Naturally, owing to this great prevalence of gas-lighting in England, electric lighting is by so much less developed. The use of electric power in London was 110 kw.-hr. per head of the population in 1910-11; in Berlin in 1911-12 it was 170 kw.-hr.; in Chicago in 1911, 310 kw.-hr., and so on.

The development of the English electric stations has been hindered not only by the number of gas-works, but partly, also, by the fact that in England about 55 per cent. of all the stations are under municipal control, whilst in Germany 25 per cent. only of all the electric stations belong to municipalities. The small productivity of electric stations in London is explained to a certain extent by the fact that they are extraordinarily diverse. This great drawback of variety is also the defect that afflicts Petrograd in respect to its electric-power supply. The use of electric equipment in England per inhabitant, according to a German estimate, amounts to about 2 roubles 83 kopecks per head, while each inhabitant of Germany spends on electro-technical apparatus 7 roubles 36 kopecks. But this relatively small quantity of electro-technical apparatus used in England was not all made in England itself. The importation during the past two years from Germany alone of electro-technical apparatus per annum reached 34,000,000 marks value, which makes about one-fifth of the total quantity of electro-technical apparatus

used in England ; whilst in Germany, with an annual production of 1,200,000,000 marks, there was an export in 1912 of 272,000,000 marks value (that is, 22.5 per cent. of the production), and in 1913 of 330,000,000 marks value (an increase in the export of 21.3 per cent.), and the export of electro-technical goods from England worked out in thousands of roubles as follows :

	1907	1911	1912	1913
Total electro-technical goods . . .	34,366	45,619	51,513	71,477
Electrical machines . . .	9,292	16,836	18,400	21,469

It is to be observed in connection with this, that the year 1913 was a very satisfactory one for the English electro-technical industry, for its export, in comparison with 1912, rose by nearly 40 per cent., whilst the increase in the German export compared with 1912 improved only by 21.3 per cent.

The cable industry in England is very highly developed, and is one of the oldest and most flourishing branches of the electro-technical industry. The great consumption in England of cables is explained particularly by the submarine telegraph lines, and so on. Thus in 1913 the export of cables made nearly half, or 47 per cent. of the total English exportation of electro-technical goods, whilst the value of the cables exported amounted to £3,577,663 sterling. Submarine cables alone were exported to the value of £1,903,915 ; in other words, about a quarter of the total English export (to be exact, 25.2 per cent.) of her electro-technical goods was made up of submarine cables. For Russia, however, this extraordinary development of a branch of the English electro-technical industry in respect to changing over from importation from Germany is not of much importance, for, thanks to the high protective tariff on cables in Russia for some years back, with the active co-operation of foreign capital,

this has been so far developed that nearly all the consumption in cables and insulated wire can be covered by the production of Russian factories, at the head of which stands the United Cable Factories of Petrograd, with a capital of 6,000,000 roubles (the last dividend was 15 per cent.), and the Kolchugin Latten and Copper Rolling Works Company, at Keleroff Station, Northern Railway, the production of which in the near future will probably increase, for the capital of this company was lately increased from 6,000,000 to 10,000,000 roubles. The importation of cables into Russia reached in 1913 155,000 roubles value, whilst from Germany the importation amounted to 81,400 roubles.

Russia does not require much of English telephone and telegraph apparatus, the exportation of which from England in 1913 was £290,279 sterling value. As the chief consumer of each apparatus in Russia is the Post Office Department, which orders them exclusively in Russia, the production of these apparatus has so far developed that the needs of the country can be supplied by existing Russian factories, at the head of which stand the Russian L. M. Ericsson and Co., in Petrograd, which recently increased its capital from 2,000,000 to 4,000,000 roubles ; the Russian Siemens and Halske Co., capital 5,600,000 roubles, latest dividend 6 per cent. ; and the N. K. Geisler Co., of Petrograd, 1,000,000 roubles capital, latest dividend 12 per cent.

The importation of telegraph and telephone apparatus in 1913, according to Russian statistics given in the *Elektrichestvo*, makes a total of only 363,000 roubles. These figures, however, do not agree with the German statistics, according to which in 1913 there was exported from Germany to Russia telegraph apparatus to the value of 188,000 marks, and telephone apparatus to the value of 1,079,000 marks ; total, 1,267,000 marks, or 583,000

roubles. In 1912, the export from Germany to Russia of these apparatus reached a total of 562,000 roubles, whilst, according to Russian statistics, this importation of telegraphic and telephonic apparatus was in 1912 only 240,000 roubles. Since German statistics are generally very exact, we must suppose that part of the imported telegraphic and telephonic apparatus from Germany are entered in the Russian import list under some other heading. Already the export alone from Germany into Russia is more than one-and-a-half times the whole Russian importation shown in the Russian statistics; while according to Russian statistics, in 1912 there was imported from Germany only half of the total quantity of imported telegraphic and telephonic apparatus, one-third being imported from Sweden and one-sixth from other countries.

The acquisition of English carbons for arc lamps, for which in Russia, in consequence of the interrupted imports from Germany (amounting in 1913 to 447,000 marks' value), at present there is a great want, unfortunately cannot be counted on. In England the production of carbons for arc lamps is even less developed than in Russia since there is only one factory of the kind. In view of this cessation of imports of carbons from Germany, the exportation of such from England was forbidden with the opening of hostilities, so that England itself imports carbons from Sweden, Switzerland, and so on. In any case, the export of carbons from England in 1913 reached a value of only £10,064. England's exportation of incandescent lamps is also small. In 1913 England's export made £152,456 sterling value. The total English export of incandescent lamps was less than the German export of these lamps to Russia alone. In 1913, according to German statistics, there were exported to Russia 7,669,105 lamps with metal filament, value 7,296,000 marks, and 1,539,586 lamps with carbon filaments, value 768,000

marks, total 8,084,000 marks, equal to 3,709,000 roubles. In 1912 this item was even larger, viz. 8,854,000 marks for metal filament and 617,000 marks for carbon filament, total 9,471,000 marks. Again, the German statistics do not agree with the Russian, for according to the latter the total Russian importation of incandescent lamps was 3,849,000 roubles in 1912.

The feeble development of English production of incandescent lamps may be partly explained by the fact that only two English factories of electric lamps work with English bulbs. All the others obtain theirs from the Continent, which certainly makes the production dearer. The last fact is seen also in many other branches of English electrical industry, particularly in the production of various equipment material such as porcelain, glass goods, etc., which might often, indeed, be made in England ; but, unfortunately, these auxiliary branches of the electro-technical industry are not sufficiently developed in England. The value of the English exportation of arc lamps and projectors was only £14,512 in 1913, whilst into Russia alone Germany exported in that year 12,369 arc lamps, valued at 652,000 marks ; parts of arc lamps valued at 79,000 marks ; and projectors valued at 500,000 marks ; total, 1,231,000 marks. England exported in 1913 £51,828 sterling value in parts of arc and incandescent lamps, including £19,737 value to Russia. Electric batteries and accumulators in that year were exported by England to the value of £226,325 ; but for Russia this branch of English electro-technical industry is, again, of but little importance, for the production of accumulators in the Russian factories can now be almost entirely covered by the national workshops. The importation of accumulators, according to Russian statistics, made in 1913 55,000 roubles value only, but the importation of galvanic batteries, not specially indicated in Russian

statistics, from Germany alone, according to German statistics, made a value of 340,000 marks.

Respecting the important group of electro-technical manufactures which is indicated in English statistics under the title "not specially named manufactures and apparatus for electro-technicians," with a total exportation of £1,063,146 sterling, Russia received £16,007 sterling; that is scarcely $1\frac{1}{2}$ per cent. of the total export. In this group, besides various ornamental materials in which England can scarcely hope to compete in Russia with other countries, there are also electrical measuring apparatus, meters, etc. The production of these instruments in England is considerably advanced, and their export into Russia might be increased. In view of Russia's great necessity it increased considerably in 1914.

Of the electro-technical manufactures under the above group, Russia imported in 1913 from Germany alone h.t. electrical apparatus, 8,967,000 marks, against 5,431,000 marks in 1912. Electric apparatus for heating etc., 321,000 marks; electric signalling apparatus, 667,000 marks; electro-medical apparatus, 894,000 marks; insulation tubes, 273,000 marks; wireless telegraph apparatus, 111,000 marks; electric measuring apparatus, 4,247,000 marks (against 3,143,000 marks in 1912); insulating articles in asbestos, mica, etc., 76,000 marks; electrodes, 173,000 marks; or a total of 35,729,000 marks.

The first position, after the cable industry, in England is occupied by the production of electrical machines; therefore this branch is more fully dealt with, especially as in the Russian importation of electro-technical products, dynamo machines and electric motors occupy the first place. Therefore, the possibility of increasing the importation of electrical machines from England becomes a question of considerable interest to Russian buyers of that class of goods.

The total export of electric generators and motors to Russia, according to the official statistics of England, Germany and Switzerland, was valued at 5,440,000 roubles; but according to Russian statistics, as published in the *Elektrichestvo*, the importation thereof made 9,595,000 roubles. If we add to the 5,440,000 roubles the value of the importation of electrical machines from Austria, Belgium, France and Switzerland, which made in 1912 only 7 per cent. of the total importation, then this sum would be only slightly increased. It remains, therefore, to suppose that under the heading electrical machines there is included in the Russian statistics, besides dynamo machines and electro-motors, all other machines driven by electric current, for example, electro-magnetic separators, and so on. Part of the difference may still be explained by the fact that Germany, Switzerland, England and other exporting countries give the export price, whilst the Russian statistics report the import price, that is, the price of the exporting country, plus the cost of transport, insurance, etc. But certainly the difference of nearly 4,000,000 roubles is not so explained, and it is regrettable that owing to inaccuracies in the figures in the Russian statistics the actual exchange of goods is confused, and one is led (by using Russian statistical data) to incorrect conclusions. According to Russian data, for example, the importation of dynamo machines and electro-motors is of almost twice the value shown in foreign statistics. The difference, in fact, is nearly half a million roubles more, for in the German export of electrical machines is added also the importation of armatures, commutators, etc., which parts in the Russian statistics are classified separately, although to a very much reduced extent compared with German statistics.

Taking advantage of the occasion, we quote one more inexactitude in the Russian statistics. These describe

as German goods many articles of English, Swiss and other origin, but imported over German railways because of the intermediate position of Germany, and the same applies to all goods arriving by steamer from Hamburg, which were described in Russia as German goods, although they may be of foreign origin, and only the last part of the way has been covered on a German steamer. Thanks to the foregoing, the importation of electrical machines from Switzerland, which made the solid sum of 1,250,000 roubles, by no means corresponds to the Russian statistics. As these machines were carried through Germany, they were described as German machines. Although, in fact, the importation of these machines from Switzerland is almost twice as large as from England, in the *Elektrichestvo* table they are not noted at all, whilst the importation from Sweden, making only one-tenth of the importation from England, is correctly described, since Swedish machines do not pass in transit through any other country. It may therefore be said with confidence that the importation of electro-technical machines from Germany is exaggerated in the Russian statistics, and the importation from other countries is underestimated. The question of the introduction of uniform statistics in all countries has been near to realisation not long before the war, for on the initiative of the Belgian Government, representatives of twenty-nine Powers, including Russia, were to meet in Brussels for the preparation of uniform statistical reports, but on account of the war, this congress was not held. It is hoped, however, that this important question for making plain the real exchange of goods of various countries and the part they take in the world's business will be duly considered after the war.

Following this slight digression, made in view of the importance of statistics for establishing the real importa-

tion of foreign electrical goods into Russia from foreign countries, we return, says the writer, to the original point.

From the foregoing particulars on the importation of electrical machines into Russia, it follows that the Russian market for English manufacturers of dynamo machines and electro-motors was not an important one before the war. Whilst Germany sent in 1913 into Russia 12·6 per cent. of all her export of electrical machines, totalling, with armatures and commutators, 7,867,000 marks, England sent into Russia only 2·7 per cent. of its total export of these machines. Even Switzerland exported these machines to Russia to twice as great an extent as England. Germany, on the other hand, exported six and a half times as many as England. Meantime, dynamo machines and electro-motors happen to be that department in which England, previous to the war, could compete more or less successfully with Germany on the Russian market.

In the distribution of material included in the English official statistics, the countries that are buyers of English electro-technical industrial manufactures may be divided into four groups. In the first are the English colonies, Australia, India, South Africa, Canada, etc. In the second, South American Republics. In the third, Trans-Oceanic countries, Japan, China, United States, etc. ; and in the last, European countries. The centre of gravity of English exports lies first in the English colonies, whence over half of all the English electro-technical manufactures are exported. One-seventh of this export goes to South America ; eleven-hundredths to Trans-Oceanic countries, and one-tenth to Europe. The stronger the competition of other countries was on the European market, and the more difficult became the export there, the less interest did the English exporter take in it ; because for them, until recently, there was an immense market in the Eng-

lish colonies, where the English have a variety of advantages compared with other competitors. For export into these countries, the English exporter does not require to learn foreign languages, and for the transport of the goods he uses the immense English fleet, and so on.

Unfortunately, Russia's business people have abroad in respect to payments a very bad reputation. If, however, foreign providers were to make distinctions between various trading firms and factories, etc., in all probability their losses would be less. Most of the insolvencies in Russia fall to trading concerns, whilst insolvencies in the factories are relatively few, for in Russia large concerns prevail. For example, in Russia there are about 1100 factories or works with the workmen exceeding 500, about 2300 between 100 and 500, and about 2150 with staffs of 50 to 100. The risk in giving credit to the two first categories of factories and a considerable portion of the third group is very small, for it is to a very large extent made up of sound concerns, and partly of share companies with large capital. But if it becomes a question of town councils, large electric stations, and the like, then the risk of non-payment is excluded entirely.

There is an almost unlimited demand in Russia for almost all products of the iron industry, and people seem agreed that for a very long series of years Russia will be unable herself to cover her requirements, and will have to import a great quantity of goods from abroad. The conditions, however, vary much, both as regards the different classes of goods and the different parts of the vast empire. Generally, it may be said that the finer a machine is, and the more difficult it is to produce, the greater the chance of importing it with advantage on to the Russian market. On account of the duty, heavy and more simple articles are more likely to prove unremunerative, and for some, especially such as are produced within

the country, the duty is simply prohibitive, reaching, or even exceeding the selling price within Russia of the article in question. Further, it may be stated that generally speaking, competition is keener in the Western Governments, which are nearer Germany, whilst the chances improve the further East one gets.

As regards cast-iron articles for building purposes, this is a class of goods for which a market can only be obtained in the case of special articles, as ordinary cast goods are manufactured within the country and at cheap prices. Heating elements for central heating installations are also made in Russia, and the duty will, no doubt, make it impossible for foreign makers to compete, unless the elements can be supplied in types principally made of rough, not worked, castings, for which the duty is materially lower. There are many Russian firms, partly branches of German concerns, which make heating plants, and this industry, no doubt, has a great future, as it is only in its infancy, and all large new buildings now have central heating installations.

Internal-combustion motors are certain of a large demand when constructed for using Russian unrefined petroleum, especially in places such as Moscow, Rostov, Odessa, Kiev, etc., in spite of there being several Russian factories in this branch. German, Swedish and Swiss motors are being used in Russia.

For wood-working machines there are several manufacturers in the country ; still the import is considerable. Machine tools are for the present in strong demand, and will do doubt also meet with a large sale after the war. German makes have a strong hold on the market, and it remains to be seen how they will fare after the war.

Electrical apparatus and appliances have hitherto been almost exclusively imported from Germany. The articles under this head are generally imported in un-

assembled parts, on account of the duty. No doubt other countries will exert themselves to secure part of this trade, and a well-known Scandinavian factory in this branch has just had a large Russian catalogue printed.

Of dynamos and electro-motors several German and Swedish factories have imported a fair number, but large quantities are made at the Russian manufactories, which have been very fully employed during the war. Light motors run at high speeds are those which meet with the readiest sale. Telephones and telegraph material are imported on a large scale; the Swedish firms particularly enjoy a high reputation.

XXII

IRON AND COAL: RUSSIA'S NATURAL RESOURCES

The Caucasus—Coal reserves—Iron resources—Export of iron ore—Naphtha

EVERY known metal is said to be found in the Urals, while all kinds of minerals are contained in the Caucasus and the Altai, not to mention the enormous quantities, still for the greater part untouched, in Siberia and the Far East. Russia stands first in the world production of platinum, second in the production of petroleum, asbestos and manganese ores, fifth in gold, seventh in copper and asphalt, and eighth in the world production of iron. The iron ores of South Russia are considered the finest in the world, and the gold ores of the Urals supply a large quantity of the wolframite, osmium, tantalum and iridium used in the manufacture of electric lamps. Besides its well-known iron mines, the Ural region contains copper, gold, silver, platinum and salt. Its precious stones include emeralds, sapphires, topazes, amethysts, alexandrites, tourmalines, etc., and much of the malachite and lapis-lazuli worked up into objects of art come from this district.

In the Caucasus mining is not so highly developed as in the Urals, chiefly owing to the lack of transport facilities and the want of timber and coal. This region is rich in iron, molybdenum, manganese and copper, of which only the latter two minerals have been worked to any

extent. Since 1907 the production of copper in the Caucasus has fallen off, though there is every evidence that with skilful management and the adoption of modern methods the output will surpass its former figures. No other country in the world has such a wealth of manganese as Russia. There are two great manganese districts : one at Chaitouri, in the province of Kutais, which extends over the whole central part of the basin of the River Kvirl, in which the richest mines are situated ; and the other at Nikopol, in the province of Ekaterinoslav. The richest deposits of this mineral cover an area of over fifty square miles. Of the 93,000 poods of lead produced in 1913, 89,000 were obtained in the Caucasus, where the most important lead mines are found. The Tetioukhe mines in the Maritime Province are very rich in ore, which is all exported. Before the war Poland was the chief centre of zinc smelting, three-quarters of Russia's output being produced there, the remainder being produced in the Caucasus. In 1913 10,700 tons were produced, and 28,800 tons imported.

The neighbourhood of Tula was originally the chief seat of the iron industry, but in 1701, owing to the energy and determination of Peter the Great, furnaces were erected in the Ural district, which thenceforward became the great centre of production. In 1718 England produced a relatively insignificant quantity of iron, whereas Russia smelted 104,464 tons of iron and 3214 tons of bronze. Although undeveloped, the iron ore deposits of the Far East have for years past attracted the attention of Russian engineers. Near Nikolaevski, on the Amur, it is calculated that the ore reserve amounts to 200,000,000 poods, and the proximity of the deposit to the vast stretch of forest land and to the coal mines of Saghalien ensures a promising future for the working of this ore. The deposits of the Ussurisk district have also been investi-

gated ; those situated about five miles from the bays of Svyatoiolga and Svyatoivladimir would certainly repay exploitation, as delivery to the harbour would not present any very great difficulty, and the necessary machinery, etc., could be transported by sea and then over the few miles inland.

Russia possesses investigated coal reserves second only to the United States. According to the estimate published by the International Geological Congress, she possesses in the Donetz basin more than three times the reserves of anthracite of Great Britain and nearly twice the amount at the disposal of the United States. In the matter of output, however, she ranks sixth. This may, to a large extent, be attributed to the infancy of this industry. In the period 1865-1910 Russia's production has increased from 300,000 tons to 24,570,000 tons, or approximately, eighty-fold. The corresponding figures for England are 100,000,000 to 264,000,000 tons respectively, showing just two-and-a-half times increase only. Germany in this lapse of time augmented her production from 28,000,000 to 220,000,000, or, roughly, nine times. The U.S.A. in this period increased her output from 25,000,000 tons to 440,000,000, or approximately seventeen times. With the application of modern scientific methods to her mining industry it seems fairly apparent that Russia should rapidly rise in the ranks of the coal-producing nations.

In European Russia the chief coal areas are the Dombrova basin in Poland, the Moscow basin, the Donetz basin, the Urals and the Caucasus.

All these basins, with the exception of the first, form the outcrop of a comprehensive basin of carboniferous deposits laid down on the vast expanse of Central and Eastern Russia, approximately from the Arctic Ocean to the Caucasus in the north-south direction, and from the

35th meridian to the Urals in the west-east direction. The sediments of the Russian basin belong for the most part to the marine or mountain limestone type, composed of massive deposits of limestone in the higher horizons with sandstones enclosing seams of coal. These latter strata attain their greatest thickness in the Donetz basin, which represents a mixture of two types. In the lower horizons the carboniferous sediments of European Russia are represented by shallow water deposits as in Western Europe, but higher up these are mixed with deep-sea deposits which differentiate the Russian basin from Western Europe, where the higher strata are of shallow or even fresh-water origin. In agreement with this the fauna of the lower deposits is fairly similar to that in France, Germany and England, but that of the upper carboniferous, contemporaneous with the West European productive measures, is peculiar to Russia, though a certain analogy is offered with the upper series of the United States.

The Drombrova basin represents the continuation of the Silesian beds. Compared with the Donetz basin the individual seams are much thicker, being over 1 sashen (7 ft.), while in the Donetz area they are only $2\frac{1}{2}$ –3 arshines (5 ft.) thick. Working costs are also cheaper, since the output per man is 19,500 poods, as against 12,100 poods in the Donetz.

The Moscow basin comprises the largest coal-bearing area in European Russia, having an outcrop of not less than 30,000 sq. kilometres. It stretches in the form of an arc from the shores of the White Sea through the governments of Archangel, Olonetz and Novgorod to the governments of Riazan, Tver and Moscow. In spite of its very favourable geological position, the quality of the coal has not enabled the Moscow basin to hold its own against the superior coals of the Donetz basin, for, in

spite of the transportation charges, it is found more economical to employ the southern coal or to use petroleum. The coal appears in two forms—gas coal, with as much as 77 per cent. of volatiles ; and smoky coal, with a large percentage of ash and moisture.

Workable seams of coal are found both on the western and eastern slopes of the Urals. The completion of the Ural railway in 1879 provided a great stimulus to the coal industry. The beds have been much disturbed by post-carboniferous folding and lie in a succession of synclines and anticlines. Towards the north the coal is anthracitic, but in the south coking coal predominates.

In the Caucasus coal is found in beds of Jurassic and Tertiary ages. The workable coals in the Jurassic occur in the middle division over a large area, but are difficult to mine except in the Suchum Kutaïs and Kuban districts. The coal is bituminous, coking, and of good quality.

The Donetz basin is the most important coalfield of European Russia, regarded both from the point of view of output and quality of coal. This field is exposed over an area of more than 19,000 sq. kilometres. Overlain towards the north and east by more recent deposits, this field has a still greater concealed area. Borings have demonstrated the presence of coal-bearing series in the government of Poltava to a depth of 192 metres.

In Asiatic Russia the most prominent place is taken by the Kuznetz basin in the Altai district, in the presence of which other lesser though important basins are apt to be overlooked.

In Turkestan the mined coals are certainly of very poor quality, but in the mountainous districts there are resources of coking coal and anthracite coal hitherto untouched owing to the initial technical difficulties.

In the Western Plains region there are enormous coal-

fields with seams varying in thickness from one to many metres and in composition varying from bituminous coal to anthracite. In the south of the Yeniseisk Government near the Mongolian frontier at Minusinsk, there is a group of three small coalfields, with a total diameter of 22 miles, characterised by a very regular stratification and a dip of 15 to 20 degrees.

In the neighbourhood of Izukh more than twenty coal seams are exposed, having a total outcrop across the strike of about two miles. These coals are high in volatiles, which range from 30 per cent. to 40 per cent.

In the neighbourhood of Irkutsk coals are found of Permian age extending 120 miles along the River Angara.

On the banks of the Lower Tunguska, in the neighbourhood of Turukhansk, there is another large field which has so far been very little investigated. In places the coal has been changed to graphite by the action of intrusive rocks.

The most prominent field in Siberia, however, is that of the Kuznetz, which touches the Trans-Siberian Railway at Sudzhensk. This is consequently part of the field that has claimed more attention. It is bounded by parallels 56 and 52, and stretches east and west between the 84th and 88th meridians east of Greenwich.

The coal is of good quality, and as many as eleven workable seams have been found, with a thickness of up to 4 metres. There are altogether about forty-five outcrops of coal at present lying in the basin, the series being worked at Bachatski and Kolchouginsky.

In different parts of the basin the coal varies in quality from gas coal to anthracite.

Since the opening of the Trans-Siberian Railway the output of this field has been rapidly increasing and, since the coal gives a good metallurgical coke, it should be destined to play an important part in the development of

Russian industries. There is calculated to be a reserve of 12,500,000,000 metric tons in this region.

There are also tremendous reserves of brow coal and friable coal which, with a suitable binding agent, could be made into excellent briquettes.

The first briquette factory in Russia was established in 1900, and manufactured small oval briquettes, each weighing about 1 lb. In 1905 the second factory was opened near Slavianoserbsk. Other factories have since been established at Marievka in the Donetz basin, with an annual output of 3,000,000 poods. Just previous to the war the Russia output in patent fuel amounted to approximately 10,000,000 poods.

Petroleum residue, so-called mazute, may play an important part as a binding agent in briquette preparation, as it not only acts in this capacity but also considerably increases the calorific value of the coal.

With increased and more efficient ways of communication, both as regards railroads and harbours, with the more frequent visits of steamers bunkering on the shores of the Black Sea and careful utilisation of by-products, the coal industries of Russia should rapidly forge ahead and form a sound basis upon which may be developed the iron, steel and other industries.

“A country’s iron resources,” says *Russia*, published by the well-known firm of R. Martens and Co., and to whom I am indebted for permission to use much of the material in this chapter, “are an index of its potential wealth, just as the production shows its actual position.”

After giving the early history of the iron industry in Russia, this article points out that at the end of the eighteenth century the Government established smelting works with mineral fuel in South Russia, and in 1879 the Lugansky State Works were founded here.

In the middle of the nineteenth century these efforts

were renewed, and two further State works were constructed—the Kerchatsky in 1845 and Petrovsky in 1868—but these two works did not give successful results. Only at the end of the sixties, when this business was taken up by private enterprise by an Englishman—John Hughes—was the South Russian metallurgical industry placed upon a satisfactory basis. John Hughes was the founder of the first large iron rolling works, and the town he established is still known as Hughesevo or more commonly Usevo.

Under the conditions of the construction of the works, with the yearly output of $1\frac{1}{2}$ million poods (there are 62 poods to the ton) of rails, John Hughes obtained from the Government a large financial loan. Further, he was granted concessions with regard to coal and iron resources, and he was also given a royalty on the rails made from native iron.

Almost simultaneously with Hughes' works, the State works at Lisichansk were constructed, as well as the private Sulinsky works of Pastoukov. All these works dealt with local Donetz ores, and in the eighth decade of last century there were only the two above-mentioned private works, with an annual production of 2 and $2\frac{1}{2}$ million poods of pig-iron.

The discovery of the rich new ore in Krivoi Rog and the connection by railway with the Donetz basin by the construction of the Ekaterinensky Railway in 1886 provided a new stimulus to the further development of the iron industry of Southern Russia.

At this time one of the other important metallurgical undertakings was founded in Southern Russia. In 1887 the Alexandrovsk Works of the Briansk Company, near Ekaterinoslav, were started, and the South Russian Dnieprovskoye metallurgical works were constructed at a distance of 30 versts from Ekaterinoslav. In 1892 the

Gdantsevky smelting works at Krivoi Rog made their appearance, and in 1895 the Druzhkovsky Works of the Donetz Company ; in the same year the Russo-Belgian Metallurgical Company built its Petrovsky works on the position of the earlier works of the same name, and the Donetsk-Yurievskoe Metallurgical Company constructed a factory near Yurievka on the Ekaterinoslav Railway.

At the end of the nineteenth century in South Russia there were already eighteen furnaces and four smelting works, the production of which in 1899 reached 82.7 million poods of pig-iron.

The enormous development of the new iron undertakings depended to a large extent upon the considerable role played by foreign capital—out of the eighteen furnaces operating only four were founded on Russian capital.

All the above circumstances give the South of Russia a dominating position in the Imperial iron supply, and since the second half of the nineties, both as regards the production of ore and the smelting of iron, the South Russian region has held first place in the empire.

The iron industry of the Kingdom of Poland, apart from the continuity of its existence, did not attain any great significance up to the middle of the eighties, and the production of iron did not even reach 3,000,000 poods per annum. Only with the construction, in 1885, of the Ivangorod-Dombrovsky Railway, uniting the coal localities with the iron districts, did the production of iron with mineral fuel begin to increase, and the existing methods of smelting with charcoal gradually diminished. In 1894 the production of iron had already reached 11,000,000 poods, and in 1904 22.8 million poods. A more considerable development of production of iron in the Kingdom of Poland is hindered by unsatisfactory conditions in the supply of raw material ; on the one hand, the low content

of iron in the local ores, which requires them to be smelted with the rich Krivoi Rog ores, and on the other hand, the absence in the Dombrova coal basin of coking coal, which makes it necessary for the Polish furnaces to work exclusively with imported coke.

The iron industry of Central Russia arose in the seventeenth century, but even up to the present time has not attained a strong development. The ores here consist of limonite and spherosiderites with a low content of iron, and some considerable quantity of phosphorus. In view of these difficulties several works employ imported Krivoi Rog ore. As far as concerns fuel, the local conditions are not favourable for the development of an extensive trade because the coal of the Moscow Basin is not of sufficiently good quality, and the forest in the neighbourhood of the works has already been considerably depleted. On account of this several works used Donetz coal.

In the middle of the eighties Central Russia smelted about $3\frac{1}{2}$ million poods of iron, and in 1890 $5\frac{3}{4}$ million poods. The general increase in the iron trade in the nineties evoked an increase in production in the Central Russian region, which in 1899 reached the maximum production of pig-iron—namely, 14·854 million poods. However, a new crisis caused a new decrease in smelting activity, which in 1909 diminished to 4·2 million poods.

As far as regards the iron trade of Northern Russia, it is only necessary to say in this connection the region is one of the oldest localities of the iron industry. Here there are abundant deposits of iron ore, large reserves of wood fuel, and numerous lakes and rivers affording free power and cheap means of communication. However, the smelting industry has not been of very great significance, and in the last five years has become practically extinct, the production not exceeding a few tens of thousands of poods per annum.

At the beginning of the present century in Central Russia there were in all forty-six ironworks, of which only ten were of any great importance.

Iron ore is found in practically all the regions of the empire, though it is only sufficiently rich in a few of these localities to enable the working to be carried out remuneratively under present conditions. Of these the following five are the chief: South Russia, Ural, Central and Northern Russia, Poland, and Caucasus in European Russia, and several more or less important localities in Siberia.

In South Russia iron ores are found in Krivoi Rog, which occupies at the present time, from the point of view of production, first place in the empire.

They are also found in the Kertch Peninsula and the Donetz Basin.

The Krivoi Rog ores consist of specular iron ores and red haematite; the Kertch and Donetz deposits of brown haematite. In the Urals there are all types of iron ore, magnetic, specular, spathic ores, and spherosiderite. Considerably richer in their reserves are the Middle and South Urals. In Central Russia many local occurrences have been recorded of spherosiderite and brown haematite. In Poland also are found deposits of brown haematite and spherosiderite. Northern Russia is rich in ores of lake and marsh origin, and also has deposits of magnetic and specular iron ores. The Caucasus is considerably poorer in respect of iron ores than in the other useful minerals, but here in Tiflis and Elisavetpol governments there are rich deposits of iron ore of varying quality. Finally, deposits of iron ores are known in Turkestan and Siberia, but, thanks to their remoteness and lack of ways of communication up to the present time, they have not been exploited to any considerable extent.

According to the estimates of the Director of the Geo-

logical Committee, Prof. K. I. Bogdanovich, the reserves of iron ore in the south of European Russia consist of about two milliard tons or 120 milliard poods, with an iron content of about 50 milliard poods. Numerous localities for iron ore, the reserves of which are not known sufficiently accurately, do not enter into this estimate, as also the localities of lacustrine and marsh ores, besides all the iron ores of Siberia. The distribution of these reserves, according to the district, is represented in the following table :

District	Ore	Iron content	
		Million poods	Million poods
South Russia	32,696	14,237	
Urals	17,198	8,277	
Central Russia	48,060	19,215	
Poland	18,000	7,320	
Caucasus	850	506	
Total	116,804	49,555	

The approximate figures for the resources in Russia, therefore, reaches 120 milliard poods, the iron content of which is approximately 50 milliard poods.

The figures for the various kinds of ore are as follows :

Resources in Million Poods

	Visible		Possible	
	Ore	Iron Content	Ore	Iron Content
Magnetic iron	6,470	3,366	57	30
Specular iron ore	5,572	3,409	—	—
Brown haematite spathic iron ore and clayey spheroiderite	40,701	16,873	54,004	25,877
Total	52,743	23,648	54,061	25,907

These estimates show the enormous resources which are at the disposal of Russia, and render all the more remarkable the slow rate of growth of the iron industry as com-

pared with that of other countries. There can be no doubt, however, that when the resources are tapped in earnest, the development of the Russian iron trade will be all the more rapid, since it will be able to adopt modern methods right from the start. The varying activity of the production of iron ores in the districts from 1885 to 1914 shows that in 1885 the production of iron ore only just exceeded 60 mill. poods. In the second half of the eighties, however, a rapid growth in the production of iron ore began with the opening up of the Krivoi Rog district. The period 1886–1900 witnessed an almost unprecedented growth in the production of iron ore. In the years 1901–1909 there was a period of stagnation in the iron industry, after which the production of South Russia again increased enormously, which was reflected in a corresponding, though less marked, increase in the output of the other districts. The growth in the production of South Russia was so great that this region not only supplied its ores to other iron-producing districts in the empire (Poland and Central Russia), but also began to export the crude ore abroad in fairly considerable quantities.

This shows the evolution that has taken place in the development of iron industry in the last half-century. The centre of this trade has migrated from the Urals to South Russia, which since 1897 has occupied the dominating position in the supply of ore.

At the present time South Russia accounts for almost 72 per cent. of the total output of iron ore in the empire. The course of its development has already been followed and it offers a remarkable example of the speed with which an industry moves forward when approached in a proper manner. The ore was first worked in the Donetsk Basin near the Yusovsky Works, but the centre of the iron

industry was quickly shifted to Krivoi Rog, which at the present time occupies a unique position in the output of ore. Iron ores were also worked in the Kerch Peninsula, and at Korsak-Mogila in the Berdiansk Ouyezd of the Ekaterinoslav government.

The Krivoi Rog Basin is an ore-bearing area of the Ekaterinoslav and Kherson governments, along the River Ingulets and its tributaries, the Rivers Saksagan and Zheltaya. In this area there is a considerable outcrop of crystalline rocks from the tertiary formation for a distance of 100 versts, stretching in a north-westerly and south-easterly direction, with its greatest spread at Krivoi Rog amounting to 6 versts. The crystalline rocks are composed of quartzite, shales and iron-bearing quartzite, with veins of ore partly lenticular but chiefly of a bedded character. The metamorphic rocks occupy a depression on the surface of the granite gneiss complex in the form of a folded syncline. In the northern part of the basin in the district of the Rivers Zheltaya and Saksagan the lenticular character of the mines prevails, and its extent reaches several hundreds of sashens and its thickness 40 sashens. In the southern part of the basin the outcrops consist of stratified rocks, which is also the case with the strata of the Chervonny Valley, of Tarapak and Likhmanovsky ; here, however, the thickness of the strata is considerably less and generally does not exceed 2-3 sashens. Accordingly, the northern part of the district is usually worked in open sections, whereas in the southern part the ores are extracted almost entirely in subterranean workings, the greatest depth of which in 1913 reached 125 sashens. The Krivoi Rog ores are red haematite and specular iron ore, whereas brown haematite is rather rare. The ore contains a high percentage of iron, which sometimes exceeds 70 per cent., though usually the ore contains 60 per cent. to 70 per cent. of iron. The ore with a smaller content of

iron—namely, 55 per cent. to 56 per cent.—is rejected and is only worked under certain circumstances. The general reserve of ore, according to the estimate of the Government Commission, who calculated the figures in 1909, reaches almost 13 milliard poods. In the last five years new strata have been exploited, and therefore the general reserve of ore in the Krivoi Rog Basin may be estimated at a considerably higher figure, so much more so as some are many versts long.

The working of the Krivoi Rog iron ore began in 1871, and first of all in the southern part of the basin; in the northern part the production of ore began only in the nineties. In the first two decades the production of Krivoi Rog ore proceeded comparatively slowly, and in 1892 amounted to 30.5 million poods. In the course of the following decade, by the construction of a railway uniting Krivoi Rog with the Donetz Basin, the production increased almost $3\frac{2}{3}$ times, reaching in 1901 111 million poods. In 1911 the production of the basin had already reached 288.2 million poods, and in 1913 387.8 million poods. From 1897 Krivoi Rog has occupied first place in Russia so far as the production of iron ore is concerned. At the present time it provides practically 72 per cent. of the production of the empire. In 1913 there were in the Krivoi Rog Basin 85 mines belonging to 45 undertakings, of which only 49 mines were worked. The area being mined belonged partly (as regards 4400 dessiatines) to iron-mining undertakings, but chiefly (7525 dessiatines) were leased to them by other people. The royalty varied from $\frac{1}{4}$ kopeck to $2\frac{3}{4}$ kopecks per pood of ore produced. The total number of workmen in the mines in 1913 amounted to 23,595.

The Krivoi Rog is generally divided into six separate districts representing the possible independent groups of deposits, which differ both in the character of the ore

deposits and in the nature of the ore containing them. These districts bear the following names :

1. Region of River Zheltaya.
2. The Saksagan group of deposits.
3. The district of the deposits of Chervonny Valley.
4. The deposits of Tarapak.
5. District of Likhmanovsky.
6. District of the Ingulets group.

There was another group of mines working the Kanduibin deposits, but in 1913-1914 these mines were not working.

The quantity of iron ore obtained from the Saksagan district gives slightly less than two-thirds of the total production of the basin. This is followed by the Likhmanovsky group of mines, the production of which reaches 21.8 per cent. to 23.3 per cent. The Zheltaya River supplies about $5\frac{1}{2}$ per cent., Chervonny Valley and Tarapalovsky ore about 3 to 4 per cent. each, and the remaining quantity is obtained from the Ingulets group.

More than 90 per cent. of the total production of the Krivoi Rog ores is extracted by companies, and the remaining 10 per cent. by individuals, while two-thirds of the whole production of the basin is obtained from lands leased by private persons, and only one-third of the ore from lands belonging to the owners of the mines. The Krivoi Rog iron mines can be divided into two groups—mines which belong to metallurgical works (almost exclusively South Russian) and others which are independent mining concerns. About three-quarters of the whole production of the Krivoi Rog ore is extracted by the first group of mines, and only one-quarter by exclusively mining enterprises. In the first group, comprising twelve metallurgical works, there is a production of 287,182,000 poods out of a total of 387,788,000 poods of ore produced

in Krivoi Rog in 1913, while only 100,606,000 poods were obtained by special mining interests.

The following table gives some idea of the increase in technical equipment of the Krivoi Rog Iron Mines for the last ten years :

		1913	1909	1904
Production of ore in mill. poods	.	387.8	217.6	203.6
Number of mines	.	49	37	50
Number of undertakings	.	28	21	26
Total length of light railways in versts	.	61	53	43
Total number of engines	.	322	109	88
Total number of electric motors	.	105	20	7
Total power of engines in h.p.	.	14,259	8,088	2,563
Total power of electric motors in kilowatts	.	4,819	1,434	128
Number of workmen	.	23,595	10,544	8,296

From this table it can be seen that the total length of light railways had increased in the last ten years by almost 50 per cent., and in 1913 amounted to 61 versts. The number of motors has been augmented almost four times, while in 1914 there were 130 steam-engines with a total power of 7987 h.p., 39 electrical machines with a total power of 5891 kilowatts, 139 motors—2756 kilowatts, 13 gas generators with a total power of 2985 h.p. Besides these, there were 68 steam and 36 electrical cars, 210 steam boilers—total heating steam surface of 104,530 sq.ft.

The progress of the technical equipment in the Krivoi undertakings in the last ten years has taken place as the direct consequence of the continued transition in the exploitation of the mines from open workings to subterranean (in 1914 there were only five mines working exclusively in open workings), and with the further deepening of subterranean mines, on account of the necessity of centralisation of power in the mines, there has been a transition of the employment of electrical energy.

The South Russian smelting works take up far the largest portion of the ore, while the smelting works of the

rest of Russia take about 8 per cent. For the five years 1909-1913 the consumption of iron ore of the South Russian works has increased to almost 80 per cent. Among the metallurgical works which employ the Krivoi Rog ore and are situated outside Russia proper, the chief are the works of Poland. A small quantity of ore is also sent to the ironworks of Central Russia (1913-0.7 mill. poods), the Volga region 0.5 mill. poods.

The Krivoi Rog ore is exported abroad, chiefly through the port of Nikolaevsk, and in insignificant quantities through the western land frontiers; thus, for example, in 1913, the total export through the western frontier was 86,000 poods.

As regards the destination of the ore exported from Russia, by far the largest portion was taken by Germany. More than 81.5 per cent. was exported through Poland, and this, together with 5.7 per cent. of Krivoi Rog ore imported direct into Germany, makes Germany's total consumption of Russian ores more than 87 per cent. of the total quantity exported. Great Britain, on the other hand, only took 12.8 per cent. of this quantity, the remaining States accounting for 0.01 per cent.

Export of Iron Ore in Thousand Poods

Countries	1913	1912	1911	1910
Holland	23,363	17,376	26,275	20,405
Great Britain	3,657	4,263	9,897	9,578
Germany	1,650	16,503	15,858	21,328
Austria-Hungary	1	2,090	737	25
Other States	3	254	1,320	379
Total	28,674	40,486	54,087	51,715

The ore deposits of the Kerch Peninsula belong to the Upper Pontic stage of the Lower Pliocene. The ores are situated in several synclinal folds, forming individual ore-bearing troughs.

The Kerch district's production of ore occupies the third place in the empire. The ore is bedded in character, and is 2 to 5 sashens thick. It is chiefly formed of brown haematite iron ore, with a considerable content of manganese, with a percentage of iron of 35 to 45 per cent., manganese 5 to 7 per cent., phosphorus $1\frac{1}{2}$ to $2\frac{1}{2}$ per cent.

Only about 20 per cent. of the production is lumpy, the rest being friable and requiring to be briquetted before smelting, or to be mixed with Krivoi Rog ore in the quantity of about one-third of the total mass. The extraction of the ore is carried out in open workings, often with the help of excavators. The most important localities of the Kerch Peninsula are Novo-Karantinnoye, Baksanskoye, Osovovinskoye, Kamuish-Burunskoye and Yanuish-Takilskoye, Kuiz-Aulskoye and Cherlekskoye. All these localities represent vast reserves of ore, and their close proximity to the sea gives them considerable advantage in respect to the export. The only disadvantage of these localities is the comparatively low percentage of iron in the ore. A careful estimate of the iron ores in the Kerch Peninsula places these at 55 milliards of poods, although Prof. Bogdanovich allows only one-half of these reserves, reckoning the probable reserve of the peninsula at 27.5 milliards of poods. The Kerch ores were first worked in 1894, but at the beginning of the present century, the Briansk Co. worked their own smelting works especially for dealing with Kerch ore. Then the production of the region rose in 1901 to almost 28 mill. poods. Soon, however (in 1903), the Kerch Works were closed, and the production of ore was seriously curtailed, and in 1907 decreased to 12.7 mill. poods. From 1908 onwards the production gradually increased until in 1913 the figures reach 29.5 mill. poods, which represents the output of two undertakings only—namely, the Russian Providence Co., with one mine at Kuiz-Auslkoye and

Cherlekskoye, and the Taganrog Metallurgical Co., having three mines, Ortelsky, Kerchensky, and the Eltigensky. The Kamuish-Burunskoye property is leased to the Briansk Co., but has not been worked. The total area of lands engaged in mining amounts to 23,410 dessiatines, and the royalty payable varies between $\frac{1}{4}$ and $\frac{1}{2}$ kopeck per pood of ore extracted. Closed workings are very rare in the district, and, in fact, their area in 1913 amounted only to 42 dessiatines, while their depth did not exceed 7 sashens. In 1914 the Kerch Works of the Taganrog Metallurgical Co. renewed their activity, and this circumstance is responsible for the increase in the output of this year over the preceding by about 14.3 per cent.

In 1914 the consumption of Kerch ore in the Kerch Works increased by 9,088,000 poods, while it decreased somewhat with the works of the Russian Providence Co., and still more markedly in the case of the Taganrog Works. The price of the Kerch ore at the minehead was approximately 5 copecks per pood.

Within the confines of the Donetz Coal Basin numerous deposits of brown iron ore, passing with an increase of depth into spathic ore, are met with. In the western part of the basin, near Bakhmut-Slavianoserbsk, they are generally lenticular masses, and although they are distributed over a considerable area, up to half a verst, they are always limited. The most productive localities are in the so-called Kalmiuso-Toretsk Basin, near the village Mikhilovka. In the eastern part of the basin the localities of iron ore have a more regular bedded character. They are also met in the Salkosky Grushevsky Basins, and also in the stations Likhi.

The percentage of iron in the Donetz ores does not exceed 35 to 40 per cent. In spite of the favourable situation close to the chief South Russian Metallurgical Works, the Donetz Basin has not been able to compete with the

much richer Krivoi Rog ore, and whereas its consumption in 1903 was 8.5 mill. poods, in 1913 it had decreased to 0.279 mill. poods. At Korsak-Mogila, near Berdiansk, deposits of magnetite and often red haematite of high quality (66 to 67 per cent. iron) are known. The production of ore commenced in the second half of the nineties, and in 1907 slightly exceeded 1.3 mill. poods. Recently in this region two sedimentary deposits of a thickness of 6 sashens, and estimated at 20 mill. poods of ore, have been discovered. The ore is conveyed by ropeway to Elizavetovka station on the Ekaterinoslav railway, from whence it is despatched to the Yuzovsky and Nikopol-Mariupolsky Works. Thus the total reserves of iron ore in South Russia, allowing 86 mill. tons for the Krivoi Rog Basin and 450 mill. tons for the Kerch Peninsula, amounts to 536 mill. tons, with a content of 323,330 thousand tons of raw iron.

With regard to the position during 1915 of the South Russian Metallurgical Industry, it was generally expected that, having regard to the deficiency of raw material due chiefly to the disorganisation of railway transport, the production would be considerably lower than in 1914.

This idea has been justified, as may be seen from the following figures for the production in 1915 and 1914:

	1915	1914	Percentage decrease
Smelting of cast iron in thousands of poods	167,671	186,216	10.2
Manufacture of mild half products	151,575	171,355	11.7
Manufacture of ready rolled articles	127,967	144,997	11.7

Further difficulties were caused in the metallurgical position by the irregular supply of fuel, ore and fluxes. This difficulty was increased by the fact that the extractors of calcareous and siliceous fluxes have been called up,

their work not being reported as of national importance. In consequence, it can only be expected that the metallurgical works will have still further to limit their production unless steps are taken to provide them with the necessary materials.

The well-known oilfields of Baku extend over an area of 2700 acres, and are the chief source of supply. The production in 1914 was 556,000,000 poods, against 500,000,000 poods in 1913. The output from the oilfields on the Apsheron Peninsula, Sourokhany, and Binagady (in the district taken from the peasants by the laws of 1890 and 1912), on Svyatoi Island, and Grozny and Maikop, in the Urals and in Ferghana, was estimated at 189,000,000 poods, which leaves 357,000,000 poods as the contribution of the old Baku petroleum area.

In spite of all this extraordinary wealth of mineral resources naphtha is the only mineral with which Russia was able to supply her needs in 1912. She was obliged to import 96.3 per cent. of the lead, 62 per cent. of the zinc, 18.6 per cent. of the copper, 14.2 per cent. of the coal, and 4.2 per cent. of the salt required for home consumption. The development of copper, gold, lead, and zinc in Russia owes much to British capital and enterprise, 50 per cent. of the copper and over 30 per cent. of the gold being produced by Anglo-Russian companies. The conspicuous part played by British capital in the petroleum industry is well known.

APPENDIX

BRITISH AND RUSSIAN WEIGHTS AND MEASURES

COMMERCIAL WEIGHTS

1 ton	=	62.028012 pood.
	=	62 pood 1 funt 11 solotnik 54.6489 dolia.
1 cwt.	=	3.101400 pood.
	=	3 pood 4 funt 5 solotnik 36.3324 dolia.
1 stone	=	15.507700 funt (pound).
1 pound (avoir.)	=	1.107643 ,, = 1 funt 10 solotnik and 32.0387 dolia.
	=	1.265877 apothecaries' pound.
1 ounce	=	6.645858 solotnik.
1 drachm	=	39.875151 dolia.

TROY WEIGHTS

1 pound (troy)	=	0.911432 funt.
	=	87 solotnik and 47.7575 dolia.
1 ounce	=	7.291456 solotnik.
1 dwt.	=	34.998989 dolia.
1 grain	=	1.458291 ,,

MEASURES OF LENGTH

1 mile	=	1.508571 verst.
	=	754.285714 sashen.
	=	5280 feet.
1 furlong	=	94.285714 sashen.
	=	282.857142 arshin.
	=	660 feet.
1 yard	=	0.428571 sashen.
	=	1.285714 arshin.
	=	3 feet.

1 ¹ / ₂ foot	=	1	foot.
1 inch	=	1	inch (duim).
	=	10	lines.
	=	0.571428	vershok.

SQUARE MEASURES

1 square mile	=	2.275787	square verst.
	=	237.061224	dessiatine.
1 acre	=	888.979591	square sashen.
	=	0.370408	dessiatine.
1 square yard	=	0.183673	square sashen.
	=	1.653061	,, arshin.
	=	9	,, feet.
1 „ foot	=	1	„ foot.
1 „ inch	=	1	„ inch (duim).
	=	0.326530	„ vershok.

CUBIC MEASURES

1 cubic yard	=	0.078717	cubic sashen.
	=	2.125364	„ arshin.
	=	27	„ feet.
1 „ foot	=	1	„ foot.
1 „ inch	=	1	„ inch.
	=	0.186588	„ vershok.

WET MEASURES

1 gallon	=	0.369415	vedro.
1 quart	=	9.235385	tcharka.
1 pint	=	4.617692	„
1 gill	=	1.154423	„

DRY MEASURES

1 chaldron	=	6.233885	chetvert.
1 quarter	=	11.082462	chetverik.
1 bushel	=	1.385307	„
1 peck	=	2.770615	garnetz.

RUSSIAN AND BRITISH WEIGHTS AND MEASURES

COMMERCIAL WEIGHTS

1 berkovetz	=	3.224349	cwt.
1 pud (pood)	=	0.322435	„
	=	36.112716	lbs. (avoir.).

1 funt (pound)	.	.	=	0.902817 lb. (avoir.)
			=	1.097174 , (troy).
1 lot	.	.	=	7.222543 drachms.
1 solotnik	.	.	=	2.407514 ,
1 doila	.	.	=	0.025078 ,

APOTHECARIES' WEIGHTS

1 apothecaries' pound	.	.	=	0.789965 lb. (avoir.).
1 untzia	.	.	=	1.053287 ounce ,
1 drachma	.	.	=	2.106575 drachms.
1 scrupul	.	.	=	0.702192 ,
1 gran	.	.	=	0.035110 ,

MEASURES OF LENGTH

1 verst	.	.	=	0.662689 mile.
1 sashen = 7 feet	.	.	=	2.333333 yards.
1 arshin	.	.	=	0.777777 ,
1 foot	.	.	=	1 foot.
1 inch (duim)	.	.	=	1 inch.
1 vershok	.	.	=	1.75 ,

SQUARE MEASURES

1 square verst	.	.	=	281.221288 acres.
			=	0.439408 square mile.
1 , , sashen	.	.	=	5.444444 , yards.
1 , , arshin	.	.	=	0.604938 , ,
1 , , vershok	.	.	=	3.0625 , , inches.
1 dessiatine	.	.	=	2.69973 acres.

CUBIC MEASURES

1 cubic sashen	.	.	=	12.703703 cubic yards.
1 , , arshin	.	.	=	0.470507 , , ,
1 , , vershok	.	.	=	5.359375 , , inches.

WET MEASURES

1 botchka	.	.	=	108.279186 gallons.
1 vedro	.	.	=	2.706980 ,
1 shtoff	.	.	=	1.082792 quart.
1 bottle	.	.	=	1.082792 pint.
1 tcharka	.	.	=	0.866233 gill.

DRY MEASURES

1 chetvert	.	.	=	5.774889 imperial bushels.
1 osmina	.	.	=	2.887444 , , ,

1 polyosmina	=	1.443722 imperial bushels
1 chetverik	=	0.721861 ,, ,,
1 garnetz	=	0.360930 peck.

RUSSIAN AND METRIC WEIGHTS AND MEASURES

COMMERCIAL WEIGHTS

1 berkovetz	=	163.804625 kilogrammes.
1 pood	=	16.380462 ,,
1 funt (pound)	=	0.409512 ,,
1 lot	=	12.797244 grammes.
1 solotnik	=	4.265748 ,,
1 dolia	=	44.435 milligrammes.

APOTHECARIES' WEIGHTS

1 funt (pound)	=	0.358322 kilogramme.
1 untzia	=	29.86022 grammes.
1 drachma	=	3.73253 ,,
1 scrupul	=	1.24418 ,,
1 gran	=	62.209 milligrammes.

MEASURES OF LENGTH

1 verst	=	1.066781 kilometres.
1 sashen	=	2.13356 metres.
1 arshin	=	0.71119 ,,
1 vershok	=	4.4449 centimetres.
1 foot	=	30.479 ,,
1 inch (duim)	=	2.54 ,,
1 line	=	2.54 millimetres.

SQUARE MEASURES

1 square verst	=	1.138021 square kilometres.
1 ,, foot	=	0.0929 ,, metres.
1 ,, sashen	=	4.552084 ,, ,,
1 ,, arshin	=	0.505787 ,, ,,
1 ,, vershok	=	19.7573 ,, centimetres.
1 ,, inch	=	6.4514 ,, ,,
1 dessiatine	=	1.0925 hectares.

CUBIC MEASURES.

1 cubic sashen	=	9.712132 cubic metres.
1 ,, arshin	=	0.359709 ,, ,,
1 ,, foot	=	0.028315 ,, ,,

1 cubic vershok . . .	=	87.819661 cubic centimetres
1 „ inch . . .	=	16.386176 „ „
1 „ line . . .	=	16.386176 „ millimetres.

WET MEASURES

1 botchka . . .	=	4.919628 hectolitres.
1 vedro . . .	=	12.299072 litres.
1 shtoff . . .	=	1.229907 „
1 bottle (beer or spirits) . . .	=	0.614954 „
1 bottle (wine) . . .	=	0.76875 „
1 tcharka . . .	=	1.229907 decilitres.

DRY MEASURES

1 chetvert . . .	=	2.099041 hectolitres.
1 osmina . . .	=	1.049520 „
1 polyosmina . . .	=	5.247604 decalitres.
1 chetverik . . .	=	2.623802 „
1 garnetz . . .	=	3.279753 litres.

METRIC AND RUSSIAN WEIGHTS AND MEASURES

COMMERCIAL WEIGHTS

1 tonne (1,000 kilogrammes) . . .	=	61.050 pood.
1 kilogramme . . .	=	2.441931 funt.
1 gramme . . .	=	0.23 solotnik.

MEASURES OF LENGTH

1 kilometre . . .	=	0.9374 verst.
1 metre . . .	=	0.4687 sashen.
	=	1.406 arshin.
	=	3.281 feet.
1 centimetre . . .	=	0.394 inch (duim).

SQUARE MEASURES

1 square kilometre . . .	=	91.533 dessiatines.
	=	0.8788 square verst.
1 hectare . . .	=	2196.72 „ sashen.
	=	0.9153 dessiatine.
1 square metre . . .	=	1.98 square sashen.
	=	10.764 „ feet.

CUBIC MEASURES

1 cubic metre (stere)	.	= 2.780 cubic arshin.
	.	= 0.103 , sashen.

WET MEASURES

1 hectolitre	.	.	= 8.130 vedros.
1 litre	.	.	= 1.3 bottles (for wine).

DRY MEASURES

1 hectolitre	.	.	= 0.4762 chetvert.
	.	.	= 3.811 chetverik.

NORMAL RATE OF EXCHANGE

1 £	.	.	.	.	= Rbl. 9.45.
1 rbl.	.	.	.	.	= 2s. 1½d.
1 kopeck	.	.	.	.	= ¼d.

(Present rates are variable.)

CONVERSION OF VALUES

At normal rate of exchange (£1=rbl. 9.45).

1 rbl. per pood	.	.	= 13ls. 3d. per ton.
	.	.	= 6s. 7d. , cwt.
	.	.	= 0.703d. , lb.
1 rbl. per funt	.	.	= 2s. 4d. , lb.
1 rbl. per vedro	.	.	= 9.35d. , gallon.
1 rbl. per sq. vershok	.	.	= 11.89d. , sq. foot.
1 £ per ton	.	.	= } 15.23 kopeck per pood.
1s. (sh.) per cwt.	.	.	= } 15.23 kopeck per pood.
1d. per lb.	.	.	= rbl. 1.42 , ,

COMMERCIAL EQUIVALENTS

The following equivalents are generally used in commerce, in calculating the stowage of goods, etc., based on their average weight.

I

1 chetvert	=	10 poods wheat.
1 , ,	=	9½ , linseed.
1 , ,	=	9 , rye.
1 , ,	=	6 , oats.

1 kouli contains from 8 to 12 chetveriks, and its gross weight (the tare, i.e. reckoned at 10 lb.)

=	9	poods rye.
=	9	„ meal.
=	8-8½	„ buckwheat.
=	8	„ barley.
=	6-7	„ oats.

II

1 ton wheat	=	6 chetverts	=	46 cubic feet.
1 „ rye	=	7 „	=	49 „
1 „ linseed	=	7 „	=	49 „
1 „ oats	=	10.5 „	=	65 „

III

100 chetverts wheat	=	16.12 tons.
100 „ linseed	=	15.07 „
100 „ rye	=	14.51 „
100 „ buckwheat	=	13.26 „
100 „ oats	=	9.67 „

IV

	Poods	Tons	Cu. ft.
1,000 quarters oats	= 8,314	= 134	= 9,279
1,000 „ rye	= 12,470	= 210	= 9,695
1,000 „ linseed	= 12,470	= 201	= 11,084
1,000 „ wheat	= 13,856	= 223	= 10,526

V

1 ton wool	=	200 cubic feet.
1 „ codilla	=	180 „
1 „ rags	=	150 „
1 „ hemp	=	130 „
1 „ flax	=	120 „
1 „ tallow	=	90 „
1 „ yarns	=	120 „
1 bale crash	=	9 „
7,000 bricks	=	1 keel = 21 tons.

VI

In capacity 1 standard hundred is equivalent to
70 rickers 22 feet long.

50 „	28	„
30 „	35	„
20 „	40	„
15 „	45	„

VII

16 French feet	.	.	=	15 English feet.
1 standard hundred deals	.	.	=	165 cubic feet.
1 standard hundred redwood deals	.	=	about 3 tons.	
1 standard hundred whitewood deals	=	about 2½ tons.		

VIII

1 cubic fathom lathwood, containing				
about 180–200 pieces	.	.	=	288 cubic feet.
6 cubic fathoms lathwood	.	.	=	10 standard hundred.
50 pieces of lathwood	.	.	=	1 ton.
110–120 pieces of lathwood, 8 feet long	=	1 standard hundred.		
1 cubic fathom firewood	.	.	=	216 cubic feet.

IX

1 last =	2 tons registry.
1 „ =	200 cubic feet.
1 „ =	5.66 cubic metres.

In stowage the following equivalents are reckoned :—

1 last =	120 poods gross of tallow, linseed oil, potash, bristles, brown sugar.
1 „ =	120 poods net of iron, copper, and cordage.
1 „ =	100 poods gross of pitch, tar, resin, wax, soap.
1 „ =	100 poods net rye and wheat flour.
1 „ =	88 poods net hides.
1 „ =	80 poods gross candles, oakum, linseed.
1 „ =	80 poods net leaf tobacco, wax in casks.
1 „ =	60 poods cotton, hemp, flax, isinglass, horse manes and tails.
1 „ =	16 chetverts oats.
1 „ =	14½ chetverts linseed.
1 „ =	13 chetverts rye.
1 „ =	12 chetverts wheat.
1 „ =	30 poods gross hops.
1 „ =	30 poods net down and feathers.
1 „ =	60 bales jufts.
1 „ =	120 ox-hides and cow-hides.
1 „ =	70 elk-hides.
1 „ =	400 goat-skins.
1 „ =	3,150 hare-skins.
1 „ =	6 bales furs.
1 „ =	80 pieces diaper.
1 „ =	60 sail-cloth.

For the annexed tables (which have never before been published) I am indebted to Mr. Otto Sokolovsky, of Rostov-on-Don. They will be found useful in making calculations.

The table of English equivalents of Russian weights and measures is also given, but the principal points to remember are that the pood is equal to 36 English pounds or 40 Russian pounds, the Russian pound or funt being about nine-tenths of a lb. avoirdupois. The arshin is the most common term in lineal measure, and this is 28 inches, or seven-ninths of a yard.

The metric system is, however, well known in Russia and largely used by all the leading establishments.

The coinage system is a decimal one, and for all practical purposes is confined to roubles and kopecks, 100 kopecks making one rouble. The normal exchange before the war was 94.50 roubles to £10 sterling, but it has since risen as high as 350.

Table showing the price per Russian pood at one shilling per lb., at different rates of exchange. (There are 36 English lbs. to the pood.)

1s. per lb. at exchange	9.00	.....	16.20	roubles.
„ „	9.50	.....	17.10	„
„ „	10.00	.....	18.00	„
„ „	10.50	.....	18.90	„
„ „	11.00	.....	19.80	„
„ „	11.50	.....	20.70	„
„ „	12.00	.....	21.60	„
„ „	12.50	.....	22.50	„
„ „	13.00	.....	23.40	„
„ „	13.50	.....	24.30	„
„ „	14.00	.....	25.20	„
„ „	14.50	.....	26.10	„
„ „	15.00	.....	27.00	„
„ „	15.50	.....	27.90	„
„ „	16.00	.....	28.80	„
„ „	16.50	.....	29.70	„
„ „	17.00	.....	30.60	„
„ „	17.50	.....	31.50	„
„ „	18.00	.....	32.40	„
„ „	18.50	.....	33.30	„
„ „	19.00	.....	34.20	„
„ „	19.50	.....	35.10	„
„ „	20.00	.....	36.00	„
„ „	20.50	.....	36.90	„

1s. per lb. at exchange	21.00	.....	37.80	roubles.
"	"	21.50	.....	38.70
"	"	22.00	.....	39.60

Illustration.—If English price is 3s. per lb., and exchange is 14.00 roubles to the £1, a Russian pood will cost $3 \times 25.20 = 75$ roubles and 60 kopecks.

Table showing the price per Russian pood at £1 per ton at different rates of exchange. (There are 62 Russian poods to the English ton.)

£1 per ton at exchange	9.00	.....	14.5	kopecks per pood.
"	"	9.50	.....	15.3
"	"	10.00	.....	16.1
"	"	10.50	.....	16.9
"	"	11.00	.....	17.7
"	"	11.50	.....	18.5
"	"	12.00	.....	19.4
"	"	12.50	.....	20.2
"	"	13.00	.....	21.0
"	"	13.50	.....	21.8
"	"	14.00	.....	22.6
"	"	14.50	.....	23.4
"	"	15.00	.....	24.2
"	"	15.50	.....	25.0
"	"	16.00	.....	25.8
"	"	16.50	.....	26.6
"	"	17.00	.....	27.4
"	"	17.50	.....	28.2
"	"	18.00	.....	29.0
"	"	18.50	.....	29.8
"	"	19.00	.....	30.6
"	"	19.50	.....	31.4
"	"	20.00	.....	32.2
"	"	20.50	.....	33.0
"	"	21.00	.....	33.8
"	"	21.50	.....	34.7
"	"	22.00	.....	35.5

Illustration.—If English price is £5 per ton, and exchange is 13.50 roubles, the price per pood will be $5 \times 21.8 = 1.09$ = one rouble and nine kopecks.

In order to arrive at once at the price in English money per English lb., divide the Russian price in roubles per 1 pood, equal to 36 English lbs., by the following divisors:—

If the rate for £1 is roubles	9.00	divide by 135
„ „ „	9.50	142½
„ „ „	10.00	150
„ „ „	10.50	157½
„ „ „	11.00	165
„ „ „	11.50	172½
„ „ „	12.00	180
„ „ „	12.50	187½
„ „ „	13.00	195
„ „ „	13.50	202½
„ „ „	14.00	210
„ „ „	14.50	217½
„ „ „	15.00	225
„ „ „	15.50	232½
„ „ „	16.00	240
„ „ „	16.50	247½
„ „ „	17.00	255
„ „ „	17.50	262½
„ „ „	18.00	270
„ „ „	18.50	277½
„ „ „	19.00	285
„ „ „	19.50	292½
„ „ „	20.00	300
„ „ „	20.50	307½
„ „ „	21.00	315
„ „ „	21.50	322½
„ „ „	22.00	330

Illustration.—If the price per pood is 36 roubles and the rate of exchange 12 roubles, then the price per pood would be 36.00 divided by 180, or 20d. per lb.

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Railways shown

Heights in En

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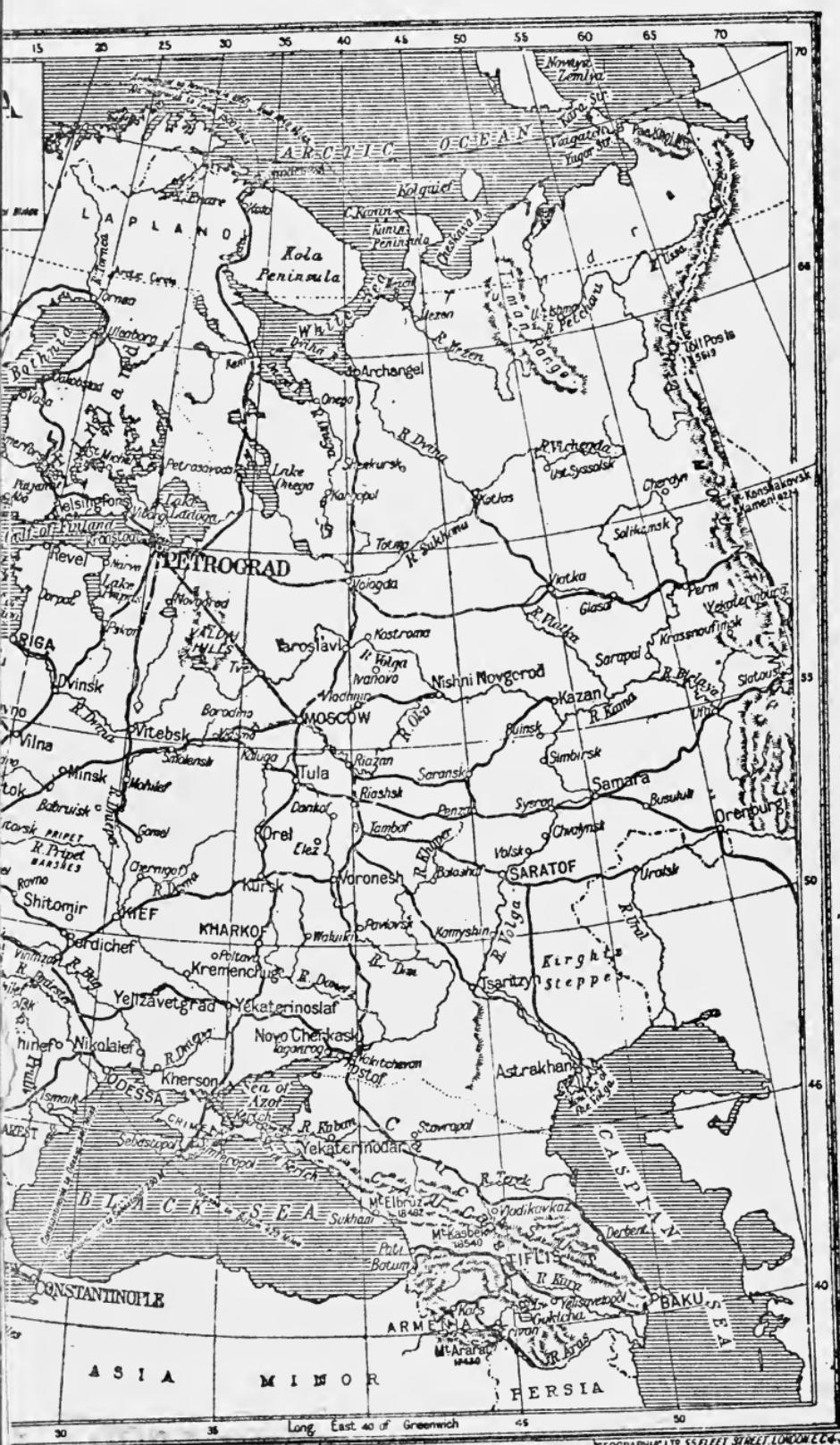
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